

Shanghai Liangxin Electrical Co., Ltd.

NDM3G-800 Product Specification

(IPD-ENG-DEV-T20 A1 2016-09-23)

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| Approved by | 丁飞 | Date | 2021-09-30 |

| Revision History | | | | | |
|------------------|--|-------------------------|----------------|-----------------|-----------------|
| Version | Revision Reason/Content | Implementati on Date | Prepared by | Reviewe d by | Approve d by |
| 0 | Newly added | 5/8/2020 | Wang Hu | Peng Haorang | Hu Qi |
| 1 | Update the product appearance picture and product dimension outline drawing | 30/9/2021 | Sun Lanping | Li Yang | Ding Fei |
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1. Applicable Scope and Purpose of Circuit Breaker

The NDM3G-800 molded case disconnecting switch (hereinafter referred to as switch) applies to infrequent switching of circuits with the AC 50/60Hz, the working voltage of AC 690V and DC 1000V, and the working current of 800A, with the load capacity. They can achieve effective isolation between the electric equipment and the power supply to guarantee the safe and reliable maintenance.

2. Product Picture of Circuit Breaker (The picture is for reference only; the specific kind prevail)



Picture of the Product

3. Specification and Model Description of Circuit Breaker

| | | | | | | | | | | |
|-----------|----------------------------|----------|--|---|------------|----------|---------------------|----------|----------|----------|
| <u>ND</u> | <u>M</u> | <u>3</u> | <u>G</u> | - | <u>800</u> | <u>□</u> | <u>□</u> / <u>□</u> | <u>□</u> | <u>□</u> | <u>□</u> |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| SN | SN name | | NDM3G | | | | | | | |
| 1 | Enterprise code | | ND: "Nader" low-voltage apparatus | | | | | | | |
| 2 | Product code | | M: Molded case circuit breaker (MCCB) | | | | | | | |
| 3 | Design SN | | 3 | | | | | | | |
| 4 | Derived code of the series | | G: Disconnecting switch | | | | | | | |
| 5 | Shell frame level | | 800 | | | | | | | |
| 6 | Operation mode | | No code: Direct handle-operated mode | | | | | | | |
| | | | P: Motor-operated | | | | | | | |
| | | | Z: Rotary operation | | | | | | | |
| 7 | Number of poles | | 2,3, 4 | | | | | | | |
| 8 | Release code | | 0: Release (none) | | | | | | | |
| 9 | Accessory code | | See Table 1 | | | | | | | |
| 10 | Rated current | | See Table 2 | | | | | | | |
| 11 | Cabling type | | No code: Normal product | | | | | | | |
| | | | P: Connection busbar | | | | | | | |
| | | | Z1: Rear-plate connection | | | | | | | |
| | | | Z2H: Plug-in rear-plate connection | | | | | | | |
| | | | Z3H: Integrated plug-in rear-plate connection | | | | | | | |
| | | | Z3Q: Integrated plug-in front-plate connection | | | | | | | |

Table 1: Comparison Table of Accessory Code:

| <div><div><div>Handle</div><div>Left installation</div><div>Right installation</div></div></div> | | | | <div>Legend</div> <div><div><div></div>Single auxiliary contact</div><div><div></div>Dual-auxiliary contact</div><div><div></div>Alarm contact</div><div><div></div>Shunt release</div><div><div></div>Under-voltage release</div><div><div></div>Auxiliary alarm contact (a single accessory features the auxiliary and alarm functions)</div></div> | | |
|--|--------------------------|-----------------------|-------|---|-------------|---|
| Accessory code | Accessory name | Installation Position | Model | NDM3G-800 | | |
| | | | | 2 | 3 | 4 |
| 00 | N/A | | | — | | |
| 20 | Dual-auxiliary contact | | | <div></div> | <div></div> | |
| 21 | Single auxiliary contact | | | <div></div> | <div></div> | |

4. Main Technical Parameters of Circuit Breaker

Table 2 Main Technical Parameters of Circuit Breaker

| | | | |
|--|---|---|--|
| Model | NDM3G-800 | | |
| Rated current of frame Inm (A) | 800 | | |
| Rated current In (A) | 800 | | |
| Rated insulation voltage Ui (AC V) | 1000 | | |
| Rated impulse withstand voltage Uimp (V) | 8000 | | |
| Rated working voltage Ue (V) | AC380/400/415 AC500, AC660/690 DC500 | AC380/400/415 AC500, AC660/690 DC750 | AC380/400/415 AC500, AC660/690 DC1000 |
| Power frequency withstand voltage U (1min) (V) | 3500 | | |
| Utilization category | AC-21A/22A/23A, DC-21A/22A/23A | | |
| Number of poles | 2 | 3 | 4 |
| Rated short circuit making capacity Icm (kA) | 10 | 10 | 10 |
| Rated short-time withstand current Icw (kA/1s) | 10 | 10 | 10 |
| Operating performance (times) | Electrical life | | 7500 |
| | Mechanical life | Maintainable free life | 10000 |
| | | Maintainable life | 20000 |

4.1 Selection of the circuit breaker connecting bus or cable cross-section area:

Table 3 Selection of the NDM3G-800 Connecting Bus or Cable Cross-section Area

| | |
|--|-------|
| Rated current (A) | 800 |
| Wire cross-section area (mm ²) | 240×2 |

4.2 Tightening Torque of the Circuit Breaker Terminal and Mounting Screw

Table 4 Tightening Torque of the Circuit Breaker Terminal and Mounting Screw

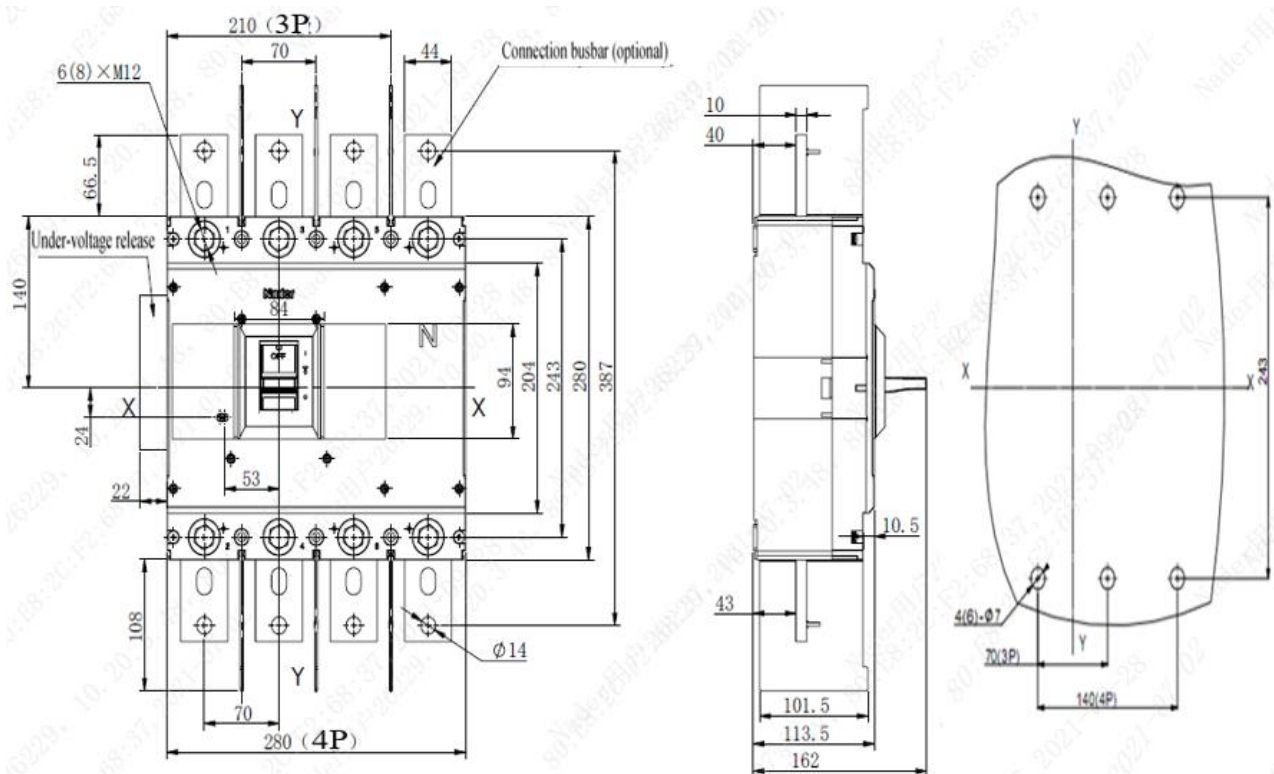
| Model | Thread diameter (mm) | Torque (N·m) |
|-----------|----------------------|--------------|
| NDM3G-800 | M10 | 20 |
| | M6 | 6 |

5. Normal Working Environment of Circuit Breaker

- 1) The altitude of the installation site doesn't exceed 2,500m. See the "High-altitude Derating Factor Table of Circuit Breaker" for the derating factor at the altitude;
- 2) The ambient temperature is $-35^{\circ}\text{C} \sim +70^{\circ}\text{C}$; the average within 24 h shall not be more than $+35^{\circ}\text{C}$. If the ambient temperature is higher than $+40^{\circ}\text{C}$, the user needs to reduce the capacity. See the "Derating Factor Table of Temperature Change for the Circuit Breaker" for the derating factor;
- 3) Its relative humidity at an ambient temperature of $+40^{\circ}\text{C}$ should not exceed 50%. A higher relative humidity is allowed at a lower temperature. For example, the relative humidity at 20°C can reach 90%; for frost due to temperature change, the corresponding measures should be taken;
- 4) The product can withstand the effects of wet air, salt mist, oil mist and mould;
- 5) The installation category of the circuit breaker connected to the main loop is: Category III (power distribution and control level), The installation category of the circuit breaker not connected to the main loop is: Category II (load level);
- 6) The pollution level is Level 3;
- 7) The product should be installed in places that are free from explosive media, media corrosive to metal, insulation damaging gas, and conductive dust, which should be also avoided from snow and rain;
- 8) In case of stricter user conditions than the above description, negotiate with the manufacturer.

6. Outline and Mounting Hole Dimensions of Circuit Breaker

6.1 Outline and mounting hole dimensions of circuit breaker



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

6.2 Safe mounting distance of circuit breaker

Table 7 Insulation Distance Mounted in the Metal Cabinet (Unit: mm)

| Mounting distance | A (inlet wire end to the cabinet face) | | B (distance from side to the cabinet face) | C (outlet wire end to the cabinet face) |
|-------------------|--|--------------------------|--|---|
| Model | With a terminal cover | Without a terminal cover | | |
| NDM3G-800 | 25 | 120 | 35 | 35 |

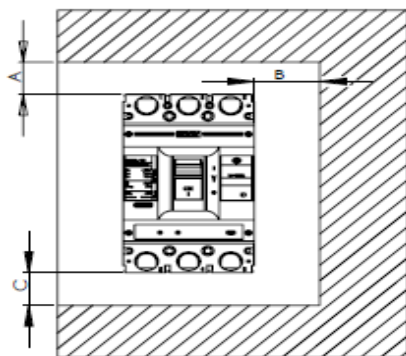


Table 8 Minimum Center Distance between Rowed Circuit Breakers (Unit: mm)

| Model | Width of circuit breaker | | I Center distance | |
|-----------|--------------------------|---------|-------------------|---------|
| | 3 poles | 4 poles | 3 poles | 4 poles |
| NDM3G-800 | 210 | 280 | 250 | 320 |

Note: Check the connected busbar or cable during rowing or stacking of the circuit breaker to ensure that the

air insulation distance won't be reduced.

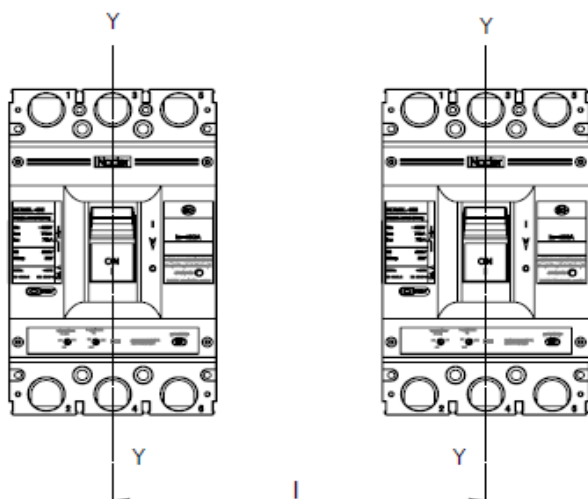


Table 9 Minimum Distance between Stacked Circuit Breakers (Unit: mm)

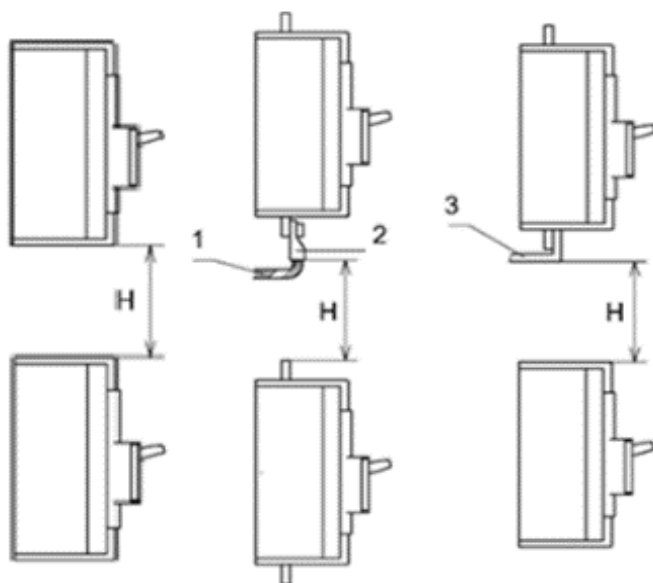
| Model | H (distance of circuit breaker from bottom) | |
|-----------|---|--------------------------|
| | With a terminal cover | Without a terminal cover |
| NDM3G-800 | 155 | 155 |

Note: 1) Bare cable connection

2) Cable insulating connection

3) Connection without insulation

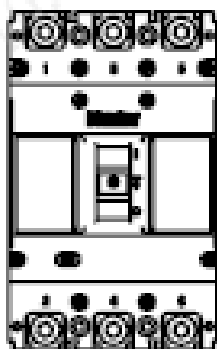
Requirements: Check whether the terminal cover or phase partition is assembled properly before products are energized.



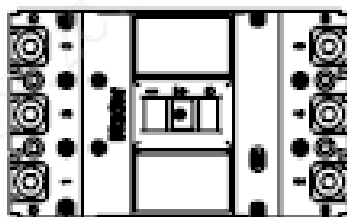
8. Installation Direction of Circuit Breaker

For vertical installation of the product, the gradient between the installation surface and the vertical plane is no more than $\pm 22.5^\circ$.

Horizontal installation of the product.



Vertical Installation



Horizontal Installation

9. Packaging and Storage of Circuit Breaker

Minimum packaging quantity: 1 piece/box. The packaged products should be stored in a warehouse with the air ventilation and the relative humidity no more than 80% when the ambient temperature is $-40^{\circ}\text{C}\sim+75^{\circ}\text{C}$. 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. Installation Direction of Circuit Breaker

| SN | Name | Specification | 2/3P Quantity/Set | 4P Quantity/Set |
|----|----------------------------|---------------|-------------------|-----------------|
| 1 | Cross small pan-head screw | M6×95 | 4 | 6 |
| 2 | Hexagon nut | M6 | 4 | 6 |
| 3 | Spring washer | 6 | 4 | 6 |
| 4 | Plain washer | 6 | 8 | 12 |
| 5 | Phase partition | —— | 4 | 6 |
| 6 | Plug | —— | 6 | 8 |

11. Circuit Breaker Notes

- 1) Various characteristics and accessories of the circuit breaker are set in the factory. The circuit breaker, tripping unit or other accessories can only be adjusted, installed and maintained by the trained or qualified professionals according to the parameter requirements of the line design;
- 2) Ensure that the power supply is off before installing or removing any device;
- 3) The circuit breaker handle can be located in three positions, indicating three states: on, off

and free tripping. When the handle is in the free tripping position, pull the handle in the off direction when the circuit breaker is connected and on.