

Product Specifications

Product name: Molded Case Circuit Breaker (MCCB)

Product model: NDM3-800

Date: 20150430

Prepared by	Reviewed by	Approved by
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Document No.	NDT500264	Version	1	Implementation date	20160630
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Revision History

Version	Revision Content	Revision Date	Revised By
0	New addition	20111106	Xu Saijin
1	Update version	20150430	Peng Haoran
2	Update version	20160601	Peng Haoran

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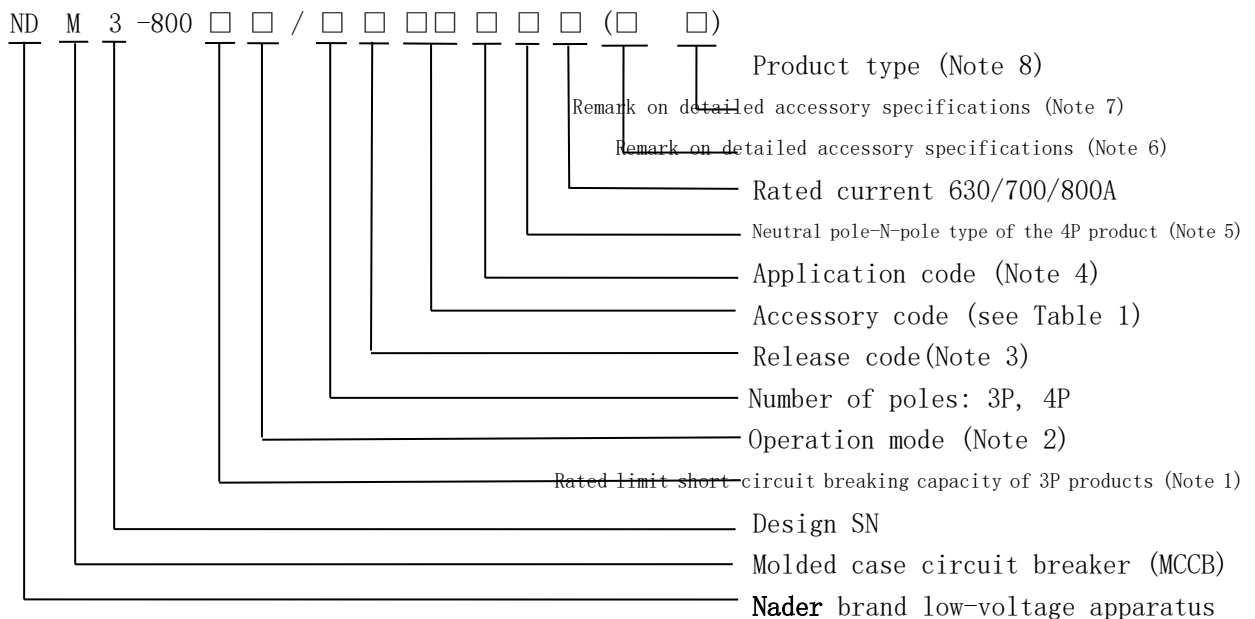
1. Applicable Scope and Purpose

NDM3 series of molded case products apply to infrequent switching of circuits with the AC 50Hz (or 60Hz), the rated working voltage of 400V and rated working current of 800A as well as infrequent motor starting. With the overload, short circuit and undervoltage protection functions, the circuit breaker can protect lines and power equipment from damage.

2. Picture of the Product



3. Model Instructions



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Note 1: Rated limit short-circuit breaking capacity of 3P products:

C: Basic type L: Standard type, M: Relatively high breaking type, H: High breaking type;

Note 2: Operation mode:

No code is available for the direct handle-operated mode

P: Motor-operated

Z: Rotation handle;

Note 3: Release code:

0: Tripper (none)

2: Instantaneous tripper only

3: Complex tripper;

Note 4: Application code

No code is available for the circuit breaker for distribution

2: Protection motor type;

Note 5: The neutral pole-N-pole type of the 4P product is divided into three types:

Type A: The N-pole isn't installed with an overcurrent tripper, but always connected;

Type B: The N-pole isn't installed with an overcurrent tripper, but on-off with the other three poles;

Type C: The N-pole is installed with an overcurrent tripper, and on-off with the other three poles.

Note 6: Remark on detailed accessory specifications

1. Detailed description of connection-type or rotation handle:

① Normal products are uncoded;

② P: Extended connection busbar;

③ H: Rear-plate connection

④ Z1: Plug-in rear-plate connection

⑤ Z2: Plug-in front-plate connection

For example: NDM3-400M/3300 400A (plug-in rear-plate connection),

NDM3-400LZ/3321 400A (CS1-A),

NDM3-400M/33002 400A (connection busbar), etc.

Note 7: Indicate the accessory voltage; the voltage of the electric operating mechanism, undervoltage tripper and shunt tripper shall be indicated temporarily:

① The voltage of the electric operating mechanism is represented as CD2 space+voltage:

For example NDM3-400LP/3020 400A (CD2 DC24V),

② If only the voltage exists in the (), the voltage of the shunt tripper or undervoltage tripper from the accessories is indicated in default,

For example: NDM3-400L/3341 400A (AC220V) (Dedicated for electric power)

③ If the shunt tripper or undervoltage tripper exists simultaneously with the different voltage, it shall be clearly marked in front of the voltage,

For example: NDM3-400M/3350 400A (MX AC220V+Q AC380V) (Dedicated for electric power),

MX and Q represent the shunt tripper and undervoltage tripper respectively.

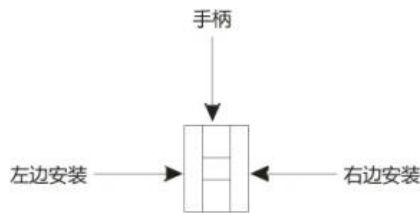
Note 8: Product type

Normal products are uncoded

DL: Dedicated power products

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▼ 图例



- 单辅助触头
- ▣ 双辅助触头
- 报警触头
- 分励脱扣器
- 欠电压脱扣器

附件代号	Name	安装位置		极数		NDM3-125		NDM3-250		NDM3-400		NDM3-630		NDM3-800	
		3	4	3	4	3	4	3	4	3	4	3	4		
		00	无	—	—	—	—	—	—	—	—	—	—	—	—
10	分励脱扣器	□●	□●	□●	□●	□●	□●	□●	□●	□●	□●	□●	□●	□●	□●
20	双辅助触头	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
21	单辅助触头	■	■	■	■	■	■	■	■	■	■	■	■	■	■
30	欠电压脱扣器	○	○	○	○	○	○	○	○	○	○	○	○	○	○
40	分励脱扣器 双辅助触头	▣□●	▣□●	▣□●	▣□●	▣□●	▣□●	▣□●	▣□●	▣□●	▣□●	▣□●	▣□●	▣□●	▣□●
41	分励脱扣器 单辅助触头	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●
50	分励脱扣器 欠电压脱扣器	○□●	○□●	○□●	○□●	○□●	○□●	○□●	○□●	○□●	○□●	○□●	○□●	○□●	○□●
60	二组双辅助触头	▣▣	▣▣	▣▣	▣▣	▣▣	▣▣	▣▣	▣▣	▣▣	▣▣	▣▣	▣▣	▣▣	▣▣
61	二组单辅助触头	■■	■■	■■	■■	■■	■■	■■	■■	■■	■■	■■	■■	■■	■■
62	双辅助触头 单辅助触头	▣■	▣■	▣■	▣■	▣■	▣■	▣■	▣■	▣■	▣■	▣■	▣■	▣■	▣■
70	欠电压脱扣器 双辅助触头	○▣	○▣	○▣	○▣	○▣	○▣	○▣	○▣	○▣	○▣	○▣	○▣	○▣	○▣
71	欠电压脱扣器 单辅助触头	○■	○■	○■	○■	○■	○■	○■	○■	○■	○■	○■	○■	○■	○■
08	报警触头	□	□	□	□	□	□	□	□	□	□	□	□	□	□
18	分励脱扣器 报警触头	□□●	□□●	□□●	□□●	□□●	□□●	□□●	□□●	□□●	□□●	□□●	□□●	□□●	□□●
28	双辅助触头 报警触头	▣□	▣□	▣□	▣□	▣□	▣□	▣□	▣□	▣□	▣□	▣□	▣□	▣□	▣□
38	欠电压脱扣器 报警触头	○□	○□	○□	○□	○□	○□	○□	○□	○□	○□	○□	○□	○□	—
48	分励脱扣器 单辅助/报警触头	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●	■□●
58	单辅助/报警触头	■□	■□	■□	■□	■□	■□	■□	■□	■□	■□	■□	■□	■□	■□
68	双辅助触头 单辅助/报警触头	▣■□	▣■□	▣■□	▣■□	▣■□	▣■□	▣■□	▣■□	▣■□	▣■□	▣■□	▣■□	▣■□	▣■□
78	欠电压脱扣器 单辅助/报警触头	○■□	○■□	○■□	○■□	○■□	○■□	○■□	○■□	○■□	○■□	○■□	○■□	○■□	—

4. Main Technical Parameters

(1). Electrical characteristics

- ▲ Rated insulation voltage U_i : 1000V
- ▲ Rated working voltage U_e : AC 380/400/415V 660/690V
- ▲ Rated current of housing I_{nm} : 800A
- ▲ Rated limit short-circuit breaking current I_{cu} :
Type M: 70KA
Type H: 100KA
- ▲ Rated operating short-circuit breaking current I_{cs} :

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Type M: 70KA

Type H: 75KA

▲ Rated working current of the auxiliary contact: 0.3A

▲ The conventional thermal current of the auxiliary contact: 3A

(2). Operating performance

▲ With electricity: 8,000 times

▲ Without electricity: 20,000 times

(3). Connection capacity:

Rated current A	Cable section		Copper bar size	
	Qty	Section mm ²	Qty	Dimensions mm ²
630	2	185	2	40×5
700	2	240	2	50×5
800	2	240	2	50×5

(4) Tightening torque value of terminal/mounting screw

SN	Rated current of frame	Thread diameter	Torque value
1	NDM3-800	M12	28
		M6	6

(5) Derating factor table of the circuit breaker

	降容系数 (In)						
	+40°C	+45°C	+50°C	+55°C	+60°C	+65°C	+70°C
NDM3-100	1	0.977	0.954	0.931	0.907	0.883	0.858
NDM3-125	1	0.977	0.954	0.931	0.907	0.883	0.858
NDM3-250	1	0.982	0.963	0.944	0.924	0.904	0.882
NDM3-400	1	0.981	0.962	0.942	0.922	0.901	0.879
NDM3-630	1	0.979	0.958	0.937	0.915	0.893	0.871
NDM3-800	1	0.980	0.960	0.939	0.918	0.897	0.877

> 注：以上降容系数均在通以壳架额定电流下测得

Note: 1). When the operating ambient temperature is below +40°C, the product can be used normally without derating capacity

(4) High-altitude derating factor

Altitude (km)	Rated operating current	Maximum operating voltage	Rated power frequency withstand voltage
2	In	Ue	U
2.5	In	Ue	U
3	0.980In	0.87Ue	0.909U
3.5	0.972In	0.846Ue	0.858U

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4	0.963In	0.813Ue	0.820U
4.5	0.951In	0.781Ue	0.784U
5	0.938In	0.743Ue	0.752U

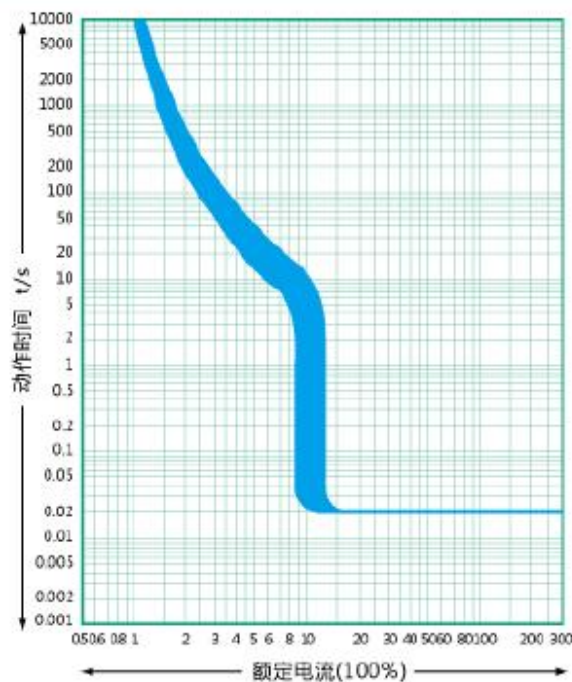
5. Normal Working Environment

- ▲ Altitude: $\leq 2000\text{m}$.
- ▲ Ambient temperature: $-35^{\circ}\text{C} \sim +70^{\circ}\text{C}$. (Reduced capacity is not considered with the temperature below $+40^{\circ}\text{C}$)
- ▲ The 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.
- ▲ Pollution level: 3.
- ▲ The product can withstand the effects of wet air, salt mist, oil mist and mould.
- ▲ The product should be installed free from snow and rain.
- ▲ The product can be disposed in places that are free from explosive media, media corrosive to metal, insulation damaging gas, and conductive dust.
- ▲ In case of stricter user conditions than the above description, negotiate with the manufacturer.

Derating Parameter Table of Temperature for the Circuit Breaker

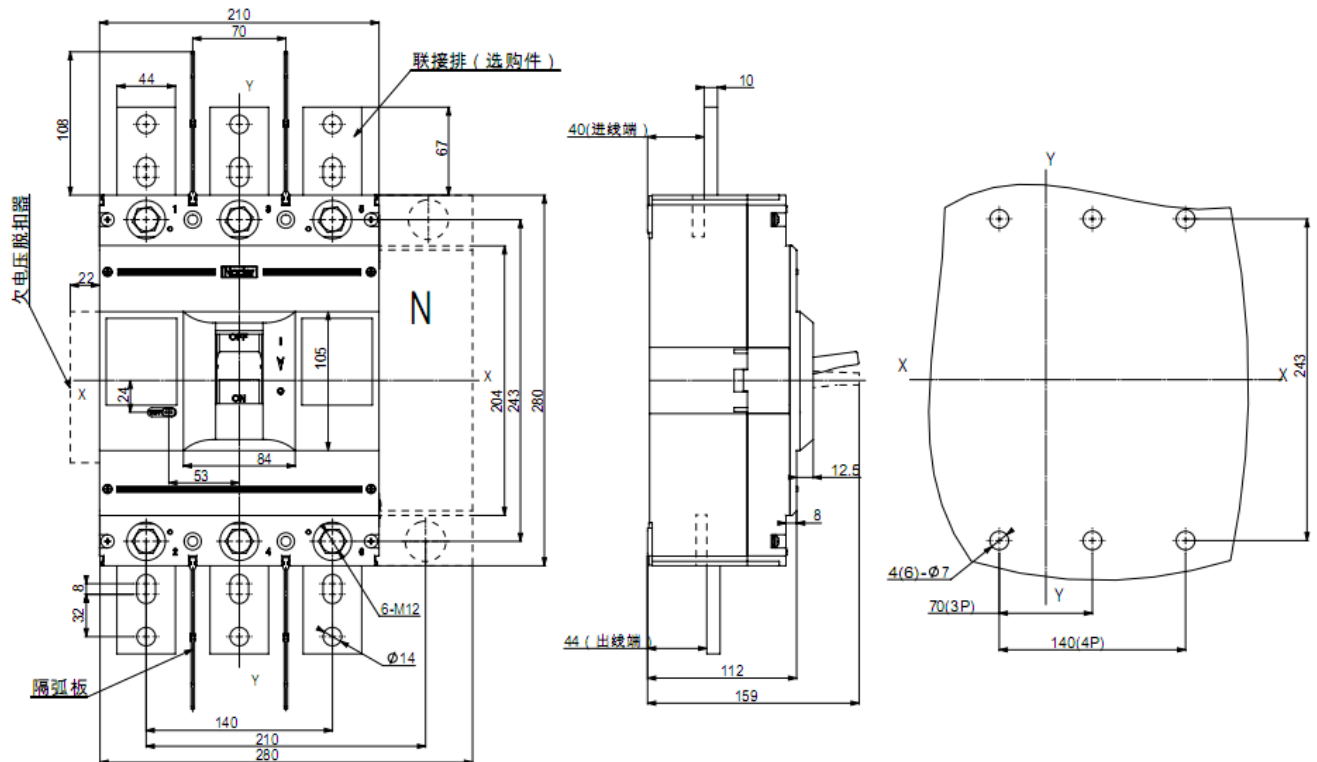
High-altitude derating factor

6. Tripping Characteristics



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7. Outline and Installation Dimensions



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

8. Installation Mode

Installation mode: To be installed horizontally or vertically

9. Packaging and Storage

Minimum packaging quantity: 1 piece/box. The packaged products should be stored in a warehouse with the ambient temperature of $-40^{\circ}\text{C}\sim 75^{\circ}\text{C}$ and the corresponding relative humidity below 80% without acidic, alkali or other corrosive gas in the surrounding air. Under the conditions above, the storage period shall be no more than 36 months since the manufacturing date.

10. List of Accessories and Installation

SN	Name	Specification	Quantity/Set
1	Cross small pan-head screws	M6X95	4
2.	Plain washer	6	4
3	Spring washer	6	4
4	Hexagon nut(s)	M6	4
5	Phase partition	—	4
6	NDM3-630 plug (black)	—	6

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11. Precautions

▲ Various characteristics and accessories of the circuit breaker are set in the factory, which shall not be adjusted randomly;

▲ 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.