


Product Specifications

Product name: Molded Case Circuit Breaker (MCCB)

Product model: NDM3-400

Date: 201605010

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	Document name	Product Specifications	Document No.	NDT500266
	Product model and name	NDM3-400 Molded Case Circuit Breaker	Version	2
			Implementation date	20160630

Revision History

Version	Revision Content	Revision Date	Revised By
0	New addition	20111106	Xu Saijin
1	Update version	20150430	Peng Haoran
2	Update version	20160510	Peng Haoran

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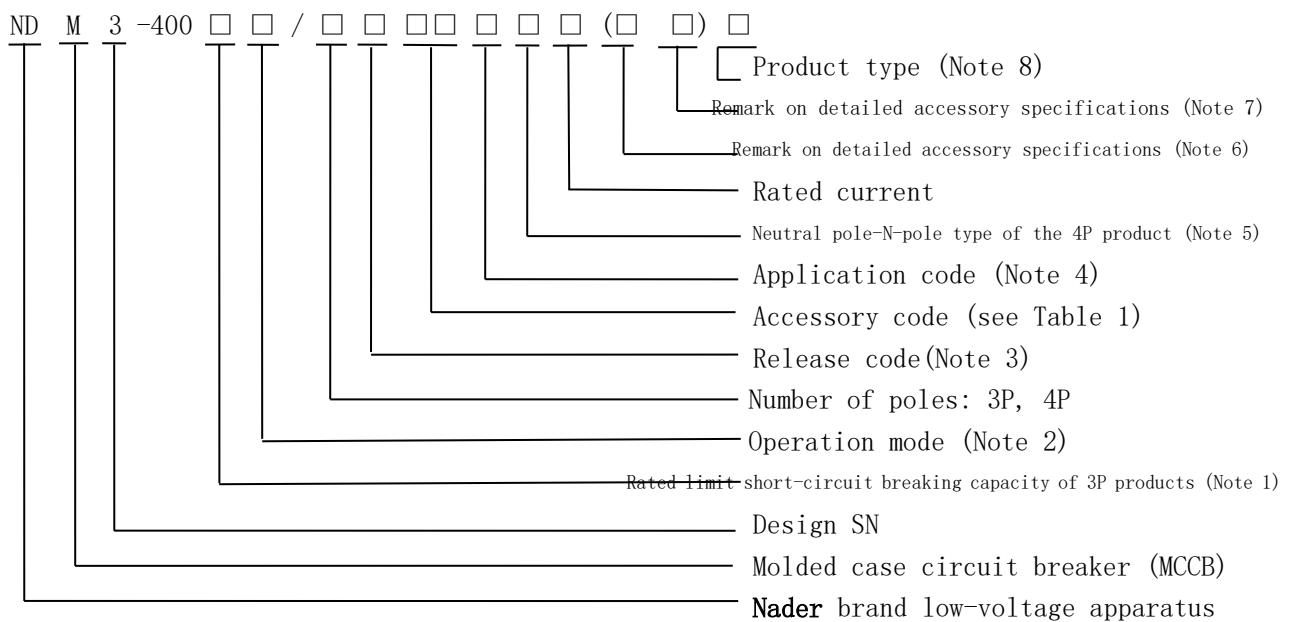
1. Applicable Scope and Purpose

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. Specification and Model Description



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:

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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)

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),

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

Note 8: Product type

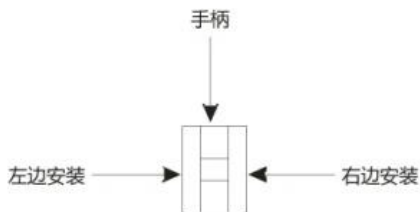
Normal products are uncoded

DL: Dedicated power products

Table 1: Comparison Table of Accessory Code:

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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

表5 脱扣方式附件代号对照表

附件代号	Name	安装位置		型号		NDM3-125		NDM3-250		NDM3-400		NDM3-630		NDM3-800	
		极数		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													—	

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(1).	Model		NDM3-400				
	Rated current of housing Inm (A)		400				
	Rated current In (A)		225, 250, 315, 350, 400				
	Rated insulation voltage Ui (AC V)		1000				
	Rated impulse withstand voltage Uimp (V)		8000				
	Rated working voltage Ue (AC V)		AC380/400/415V, AC500V, AC660/690V				
	Number of poles		3			4	
	Rated limit short-circuit breaking capacity level		C	L	M	H	/
	Rated limit short-circuit breaking capacity Icu (KA)	415V	35	50	70	100	70
		500V			50		50
		690V			20		20
	Rated operating short-circuit breaking capacity Ics (KA)	415V	35	50	70	75	70
		500V			50		50
		690V			15		15
Operating performance	POWER ON	7500					
	Without electricity	10000					

Connection capacity:

Rated current A	225	250	315, 350	400
Wire cross-section area mm ²	95	120	185	240

(2) Tightening torque value of terminal/mounting screw

SN	Rated current of frame	Thread diameter	Torque value
1	NDM3-400	M10	20
		M6	6

(3) Derating factor table of the circuit breaker

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	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.

2). The above derating factors are measured at the frame current.

(4) High-altitude derating factor

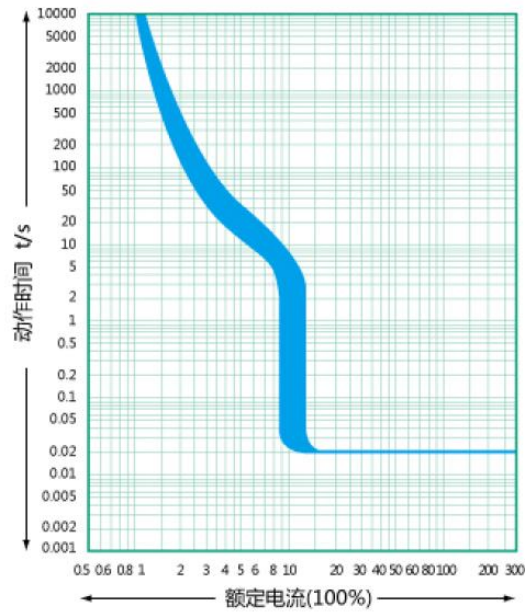
Altitude (km)	Rated operating current	Maximum operating voltage	Rated power frequency withstand voltage
2	In	Ue	U
2.5	In	Ue	U
3	0.980In	0.87Ue	0.909U
3.5	0.972In	0.846Ue	0.858U
4	0.963In	0.813Ue	0.820U
4.5	0.951In	0.781Ue	0.784U
5	0.938In	0.743Ue	0.752U

5. Normal Working Environment

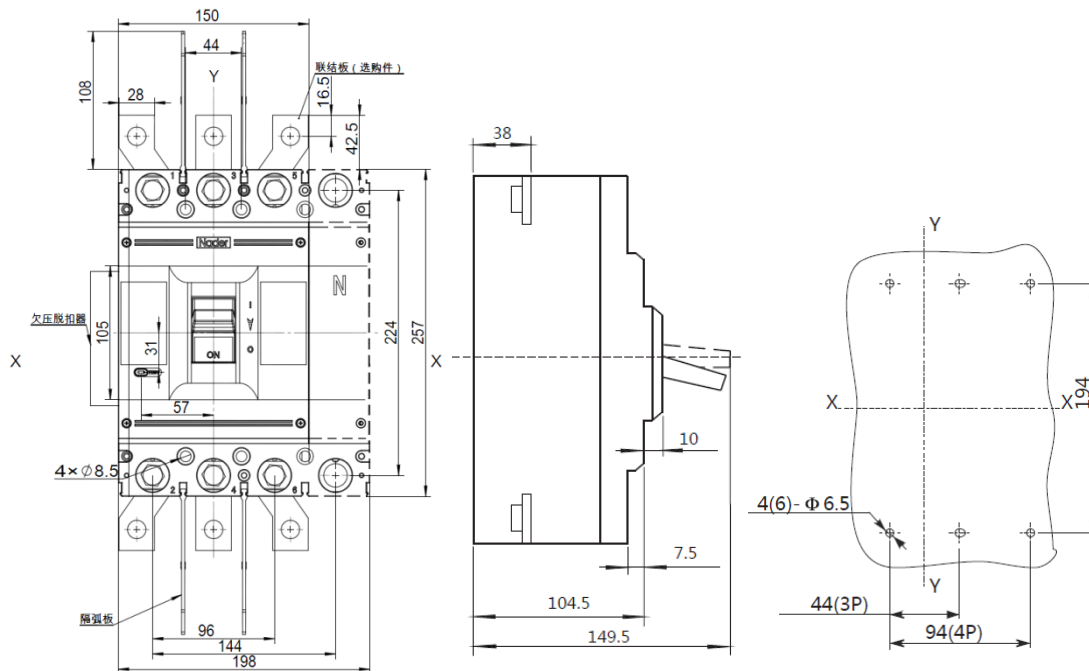
- ▲ Altitude: $\leq 2000\text{m}$.
- ▲ Ambient temperature: $-35^{\circ}\text{C} \sim +70^{\circ}\text{C}$. (Reduced capacity is not considered with the temperature below $+40^{\circ}\text{C}$)
- ▲ The relative humidity at an ambient temperature of $+40^{\circ}\text{C}$ should not exceed 50%. A higher 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.

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.

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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	M6X70	4
2.	Plain washer	6	4
3	Spring washer	6	4
4	Hexagon nut	M6	4
5	Phase partition	——	4
6	NDM3-400 plug (black)	——	6

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.