

# CHNT

Empower the World



## NM8N Moulded Case Circuit Breakers

# ABOUT CHINT LOW VOLTAGE

Zhejiang CHINT Electrics Co., Ltd. is a wholly owned subsidiary of CHINT Group. Cultivating R&D, manufacturing and sales of low-voltage products, we provide system solutions for building, power supply, hoisting, HVAC, telecommunication and other industrial customers. For nearly 40 years since its founding, CHINT Electrics has provided reliable products and services to over 140 countries and regions. Today, CHINT has grown to be one of the world's renowned low-voltage brands.

## CHINT Honors

2022

- "AAAAA" standardized good behavior certificate
- "Global Partnership" and "Countries along the Belt and Road" in the "2021 Best Practices for Realizing the Sustainable Development Goals".
- CSR Impact Leading Enterprise

2021

- No. 1 in "China's Top 100 Private Enterprises with Social Responsibility" in 2021
- For 8 consecutive years, CHINT has won the sales champion of Tmall double 11 in electrical and hardware industry
- No. 92 in "2021 China's Top 500 Private Enterprises".
- No. 244 in "2021 Top 500 Chinese Enterprises"
- The intelligent manufacturing factory of low-voltage electrical appliances was selected as the national "2021 Intelligent Manufacturing Demonstration Factory".

2020

- CHINT was selected in the 2020 Zhejiang Province "Future Factory" recognized list, and was rated as the leading "Leading Goose Factory".
- The key inverter technology of CHINT won the second prize of China Electric Power Science and Technology.
- CHINT Astrometry was selected as the smart PV demonstration enterprise list of the Ministry of Industry and Information Technology and won the honor of "Influential PV cell/module brand", "Influential PV EPC / End User", "Influential PV power station operation and maintenance brand".

2019

- National Green Factory
- National Industrial Design Center of the MIIT
- Global Top 20 PV Enterprise
- China's Top 10 Successful PV Enterprise
- Top 100 Innovative Enterprises in Zhejiang Province
- Technology innovation system was awarded the 2018 Science and Technology Progress Award in Zhejiang

## Qualification Certification

The products have been accredited through China Compulsory Certification (CCC) as well as UL of US, CE of EU, VDE and TÜV of Germany, KEMA of Netherlands, RCM of Australia, RCC of South Africa and other international product certifications.



# GLOBAL FOOTPRINT



**4** National R&D Centers: North America, Europe, Asia Pacific, North Africa

**6** International Marketing Territories: Asia Pacific, Western Asia and Africa, Europe, Latin America, North America, China

**14** Manufacturing Bases: China (Wenzhou, Hangzhou, Shanghai, Jiaxing, Xianyang, Jinan, Yancheng), Thailand, Singapore, Vietnam, Malaysia, Egypt, Algeria and Cambodia

**20+** International Logistics Centers

**2300+** Sales Companies

## GLOBAL CAPACITY LAYOUT

The industrial manufacturing bases are mainly located in Wenzhou, Hangzhou, Shanghai, Jiaxiang, Xianyang and Yancheng. Additionally, CHINT has set up factories in Thailand, Singapore, Vietnam, Malaysia, Egypt, Cambodia etc.




# R&D, QUALITY, SALES, LOGISTICS

## Main Advantages

### Global R&D System

CHINT has established national R&D centers in North America, Europe, Asia Pacific, North Africa and other areas. We have explored the mode of Industry-University Research Institute Collaboration and Integration together with the universities and research institutions worldwide so as to integrate the global innovation resources and promote corporate R&D innovation and talent cultivation.

 <p>24 research institutes</p>	 <p>The average annual R&amp;D investment accounts for 4-12% of the revenue</p>	 <p>Over 6000 patents in total</p>
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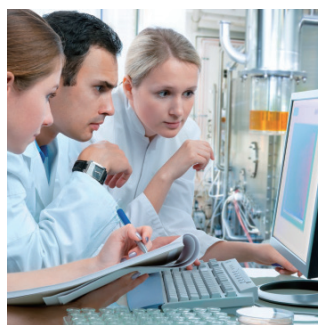
## Global Certification

The products have passed the standards and specifications in various regions around the world and obtained numerous international certifications




## Honors

- No. 1 in China's Top 100 Private Enterprises with Social Responsibility in 2021
- No. 92 in 2021 China's Top 500 Private Enterprises
- No. 244 in 2021 Top 500 Chinese Enterprises
- The intelligent manufacturing factory of low-voltage electrical appliances was selected as the national 2021 Intelligent Manufacturing Demonstration Factory




### Integrated Vertical R&D

 By gathering the global industry elites to Provide safe and stable energy-saving green and advanced electric products.


### Great Quality System

 Ensuring flaw-free and trouble-free products, the multi-dimensional and multilevel control is conducted through procurement, inspection, quality control and certification.

### One-stop Services

 CHINT's concept is that it is not difficult to fulfill a high-quality logistics distribution at one time, while it is difficult to stay as accurate and prompt as the first-time. High-efficiency and high-precision accuracy are our requirement.

### 48-Hour Response

 Providing end-to-end one-stop services for customers with complains, business consulting and technical support by solving problems immediately and including any possible problems in advance.

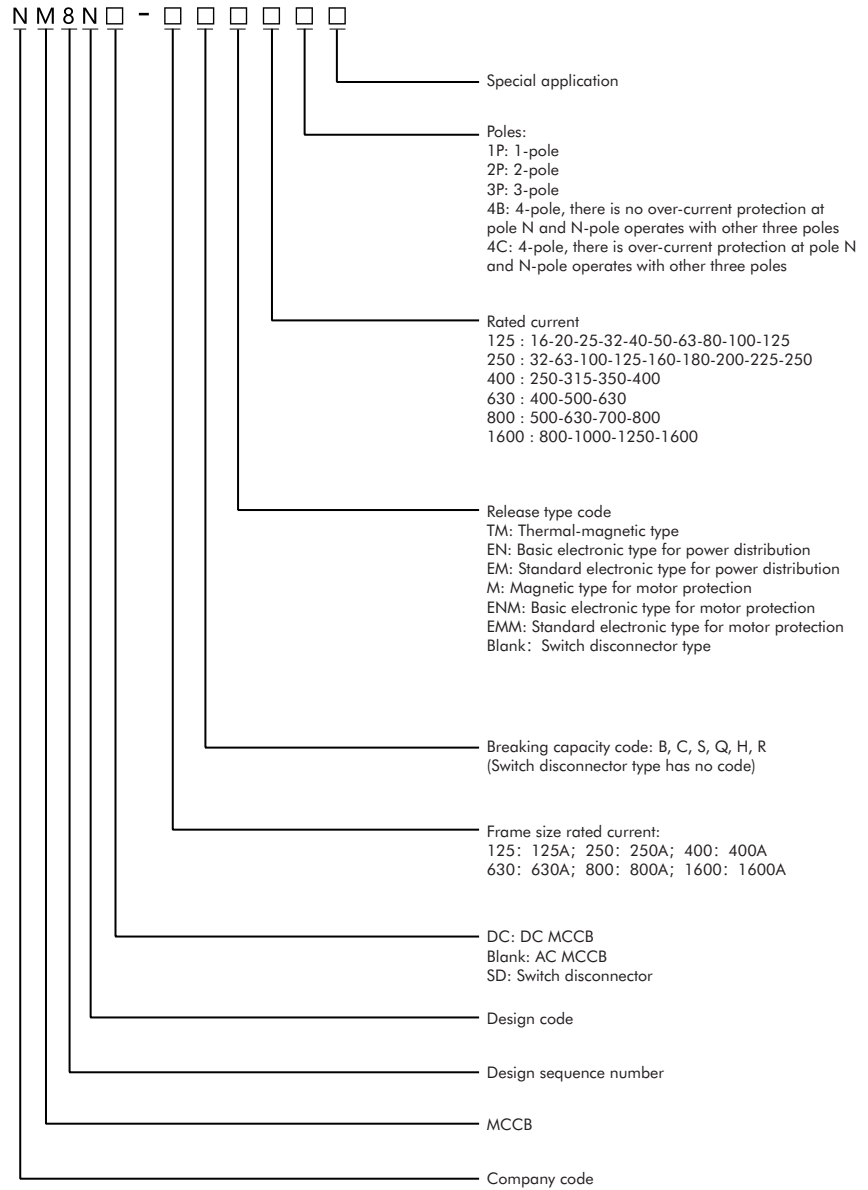
**5%**

At least 5% of revenue is invested in research and development



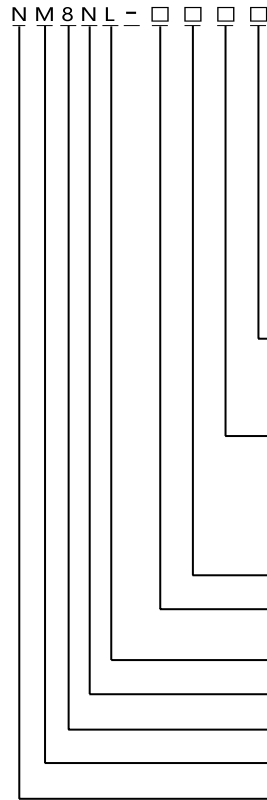
### 3. Type designation

#### 3.1 NM8N Moulded Case Circuit Breaker and Switch Disconnecter





### 3.2 NM8NL Residual Current Breaker



Rated residual current code:  
 RCD1: 0.03-0.1-0.3-1A adjustable (Applicable to the frame size of 125-250-400-630)  
 RCD2: 0.05-0.2-0.5-2A adjustable (Applicable to the frame size of 125-250)  
 RCD3: 0.05-0.2-0.5-1A adjustable (Applicable to the frame size of 400-630)  
 RCD4: 0.1-0.3-1-2A adjustable (Applicable to the frame size of 400-630)

Rated residual current type:  
 Default: AC type, A: A type

Pole code:  
 3P: 3-pole  
 4P: 4-pole

Frame size rated current:  
 125: 125A; 250: 250A; 400: 400A; 630: 630A

Residual current code

Design code

Design sequence number

MCCB

Company code

NM8N DC Moulded Case Circuit Breaker		125	250					250				
Rated operating current In (A),40°C		16-20-25-32-40-50-63-80-100-125					125-160-180-200-225-250					
Electric characteristics												
Rated insulation voltage Ui (V)		1000					1000					
Rated impulse withstand voltage Uimp (kV)		8					8					
Rated operational voltage Ue (V),DC		250 , 500 , 750 , 1000					250 , 500 , 750 , 1000					
Breaking capacity code		B	C	S	Q	H	B	C	S	Q	H	
Number of poles	1P	■	■	■	—	—	■	■	■	—	—	
	2P	■	■	■	■	■	■	■	■	■	■	
	3P	■	■	■	■	■	■	■	■	■	■	
	4P	■	■	■	■	■	■	■	■	■	■	
Rated ultimate short-circuit breaking capacity Icu(kA)	DC250V 1P	25	36	50	—	—	25	36	50	—	—	
	DC500V 2P in series	25	36	50	70	100	25	36	50	70	100	
	DC750V 3P in series	25	36	50	70	100	25	36	50	70	100	
	DC1000V 4P in series	25	36	50	70	100	25	36	50	70	100	
Rated service breaking capacity Ics(kA)	DC250V 1P	25	36	50	—	—	25	36	50	—	—	
	DC500V 2P in series	25	36	50	70	100	25	36	50	70	100	
	DC750V 3P in series	25	36	50	70	100	25	36	50	70	100	
	DC1000V 4P in series	25	36	50	70	100	25	36	50	70	100	
Standard		IEC/EN 60947-2										
Utilization category		A					A					
Ambient temperature		-40°C ~+70°C										
Safety of insulation		■					■					
Arcing distance		0					0					
Mechanical life (CO recycle)	Maintenance free	15000					15000					
Electrical life (CO recycle)	DC1000V,In	2000					1500					
Release units												
Distribution protection	TM	■					■					
Mounting and connection												
Fixed	Front connection	■					■					
	Rear connection	■					■					
Plug-in <sup>1)</sup>	Front connection	■					■					
	Rear connection	■					■					
Draw-out <sup>1)</sup>	Front connection	—					—					
	Rear connection	—					—					
DIN rail	Front connection	■					■					
Dimension												
Dimension(mm) W×H×D	Width(1P/2P/3P/4P)	35/62/90/120					40/70/105/140					
	Height	140					157					
	Depth	78.5					88.7					
Weight												
Weight(kg)/Fixed	1P	0.5					0.75					
	2P	0.83					1.3					
	3P	1.19					1.85					
	4P	1.55					2.5					

Note : <sup>1)</sup> For 3/4 pole product only.

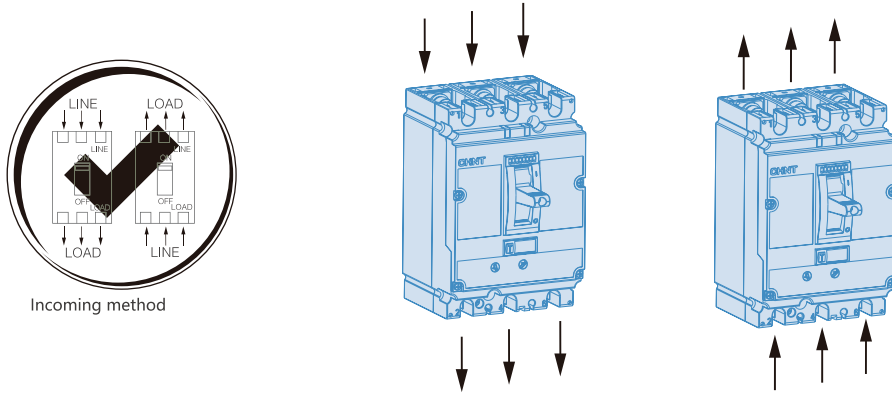


	400	630	800	1600
	250-315-350-400	400-500	500-630-700-800	800-1000-1250-1600
	1000	1000	1250	1000
	12	12	12	8
	750 , 1000	750 , 1000	750 , 1000	750 , 1000
	B C S Q H	B C S Q H	B C S Q H	B C
	— — — — —	— — — — —	— — — — —	— —
	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■
	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■
	— — — — —	— — — — —	— — — — —	— —
	— — — — —	— — — — —	— — — — —	— —
	25 36 50 70 100	25 36 50 70 100	25 36 50 70 100	25 36
	25 36 50 70 100	25 36 50 70 100	25 36 50 70 100	25 36
	— — — — —	— — — — —	— — — — —	— —
	— — — — —	— — — — —	— — — — —	— —
	25 36 50 70 100	25 36 50 70 100	25 36 50 70 100	25 36
	25 36 50 70 100	25 36 50 70 100	25 36 50 70 100	25 36
	IEC/EN 60947-2			
	A	A	A	A
	-40C ~+70C			
	■	■	■	■
	0	0	0	0
	15000	15000	10000	6000
	1500	1500	1000	1000
	■	■	■	■
	■	■	—	■
	■	■	■	—
	■	■	—	—
	■	■	■	—
	■	■	■	—
	—	—	—	—
	140/185	140/185	195/260	210/280
	255	255	300	286
	113	113	133	167
	—	—	—	—
	—	—	—	—
	5.2	5.5	10.3	13.5
	6.7	7	13.5	17.5

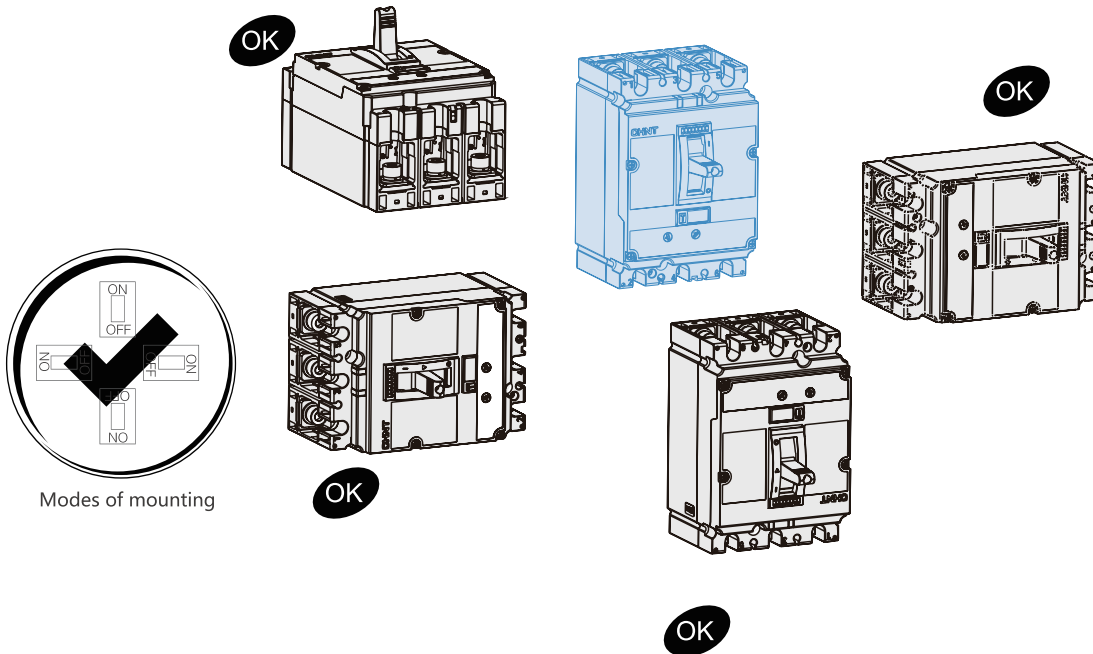


## 7. Mounting of circuit breaker

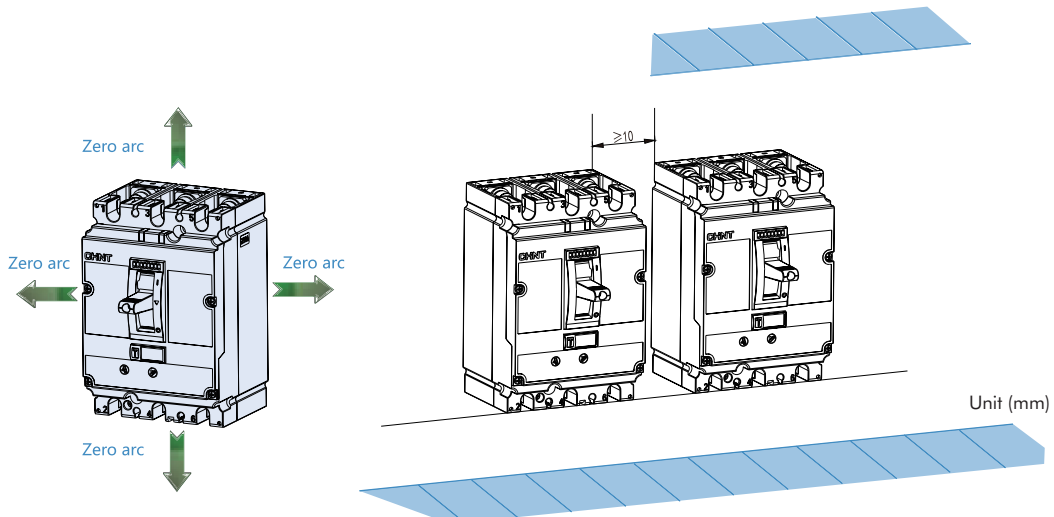
### 7.1 Modes of down-lead



### 7.2 Modes of mounting



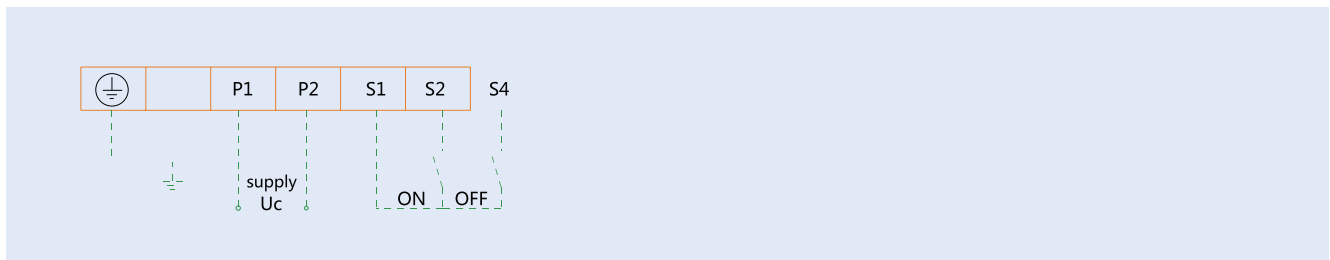
### 7.3 Safe distance



9.5.3 Electrical characteristics

Frame size	Operational Type	Rated operational voltage	Life (CO recycle)	Power consumption	Action current	Making duration	Breaking duration	Minimum duration of ON(OFF) signal pulse
125A	MOD 21-M8	AC110V/DC110 AC220-240V DC220V AC380-415V DC24V	10000	150 150 150 100	$\geq 3$ $\geq 4$	$\leq 500\text{ms}$	$\leq 500\text{ms}$	300ms
250A	MOD 22-M8	AC110V/DC110 AC220-240V DC220V AC380-415V DC24V	10000	150 150 150 100	$\geq 3$ $\geq 4$	$\leq 500\text{ms}$	$\leq 500\text{ms}$	300ms
400/630A	MOD 23-M8	AC110V/DC110 AC220-240V DC220V AC380-415V DC24V	8000	300 300 300 190	$\geq 3$ $\geq 8$	$\leq 1000\text{ms}$	$\leq 1000\text{ms}$	300ms
800A	MOD 24-M8	AC110V/DC110 AC220-240V DC220V AC380-415V DC24V	4000	300 300 300 190	$\geq 3$ $\geq 8$	$\leq 1000\text{ms}$	$\leq 1000\text{ms}$	300ms

9.5.4 Wiring diagram



## 10. Technical Supplement

### 10.1 DC application wiring method

Solutions	Unipolar grounding system	Ungrounded system												
Circuit diagram														
Impact of fault	<table border="1" data-bbox="427 689 746 880"> <tr> <td>Fault A</td> <td>maximum short-circuit current <math>I_{sc}</math></td> </tr> <tr> <td>Fault B</td> <td>maximum short-circuit current <math>I_{sc}</math></td> </tr> <tr> <td>Fault C</td> <td>has no effect</td> </tr> </table>	Fault A	maximum short-circuit current $I_{sc}$	Fault B	maximum short-circuit current $I_{sc}$	Fault C	has no effect	<table border="1" data-bbox="1002 689 1321 880"> <tr> <td>Fault A</td> <td>has no effect</td> </tr> <tr> <td>Fault B</td> <td>maximum short-circuit current <math>I_{sc}</math></td> </tr> <tr> <td>Fault C</td> <td>has no effect</td> </tr> </table>	Fault A	has no effect	Fault B	maximum short-circuit current $I_{sc}$	Fault C	has no effect
Fault A	maximum short-circuit current $I_{sc}$													
Fault B	maximum short-circuit current $I_{sc}$													
Fault C	has no effect													
Fault A	has no effect													
Fault B	maximum short-circuit current $I_{sc}$													
Fault C	has no effect													
≤DC500V	<p data-bbox="343 1122 837 1189"><b>Note:</b> 1. The upper and lower lines can be used, here the following lines are taken as an example.</p>	<p data-bbox="917 1122 1412 1234"><b>Note:</b> 1. Both the upper and lower lines can be used, here the following lines are taken as an example; 2. Make sure that the installation method does not cause a secondary ground fault.</p>												
DC500~750V	<p data-bbox="343 1485 837 1552"><b>Note:</b> 1. The upper and lower lines can be used, here the following lines are taken as an example.</p>	<p data-bbox="917 1485 1412 1597"><b>Note:</b> 1. Both the upper and lower lines can be used, here the following lines are taken as an example; 2. Make sure that the installation method does not cause a secondary ground fault.</p>												
DC750~1000V	<p data-bbox="343 2045 837 2112"><b>Note:</b> 1. The upper and lower lines can be used, here the following lines are taken as an example.</p>													

10.10 Selective protection

Downstream	Upstream In (A)	NM8N-125										NM8N-250					NM8N-250 Electronic						
		16	20	25	32	40	50	63	80	100	125	125	160	180	200	225	250	32	63	100	160	250	
NB1 Tripping curve:B/C	≤10	190	190	300	400	500	500	500	630	800	1000	T	T	T	T	T	T	400	500	1000	T	T	
	16			300	400	500	500	500	630	800	1000	T	T	T	T	T	T	400	500	1000	T	T	
	20					500	500	500	630	800	1000	T	T	T	T	T	T		500	1000	T	T	
	25						500	500	630	800	1000	T	T	T	T	T	T		500	1000	T	T	
	32							500	630	800	1000	2000	5000	T	T	T	T		500	1000	T	T	
	40								630	800	1000	2000	5000	T	T	T	T			1000	T	T	
	50									800	1000	2000	5000	T	T	T	T			1000	T	T	
	63										1000	2000	5000	T	T	T	T			1000	T	T	
NM8N-125	16					400	500	500	630	800	1000	1000	2500	2500	2500	2500	2800		500	1000	2500	2800	
	50						500	500	630	800	1000	1000	2500	2500	2500	2500	2800		500	1000	2500	2800	
	25							500	630	800	1000	1000	2500	2500	2500	2500	2800		500	1000	2500	2800	
	32								630	800	1000	1000	2500	2500	2500	2500	2800			1000	2500	2800	
	40									800	1000	1000	2000	2000	2500	2500	2800			1000	2000	2800	
	50										1000	1000	2000	2000	2500	2500	2800			1000	2000	2800	
	63											1000	2000	2000	2500	2500	2800				2000	2800	
	80												2000	2000	2500	2500	2800				2000	2800	
100														2500	2500	2800					2800		
125															2500	2800						2800	
NM8N-250	125																						
	160																						
	180																						
	200																						
	225																						
	250																						
NM8N-250 Electronic	32																			1000	2000	2800	
	63																				2000	2800	
	100																					2800	
	160																						
	250																						
NM8N-400	250																						
	315																						
	350																						
	400																						
NM8N-400 Electronic	250																						
	400																						
NM8N-630	250																						
	315																						
	350																						
	400																						
	500																						
NM8N-630 Electronic	250																						
	400																						
	630																						

Note: <sup>1)</sup> No content, meaning no selectivity.

<sup>2)</sup> 1000, which indicates local selectivity, and the number indicates the maximum fault current to achieve selectivity. For example, selectivity below 1000A can be achieved here, and upper and lower circuit breakers above 1000A may operate simultaneously.

<sup>2)</sup> T, which means that full selectivity is satisfied within the breaking capacity of the lower circuit breaker.



## 11. Ordering notice

### 11.1 Quick selection of circuit breaker

#### 11.1.1 Quick selection of power distribution and motor protection circuit breakers<sup>1</sup>

Circuit breaker	Frame current(A)	Breaking code	Release type	Rated current(A)		Poles	Special requirement
NM8N moulded case circuit breaker	125 250 400 630 800	C : 36kA S : 50kA Q : 70kA H : 100kA R : 150kA	M: Magnetic for motor protection TM: Thermal Magnetic for Distribution Protection EN: Electronic Basic for Distribution Protection EM: Electronic Standard for Distribution Protection ENM: Electronic Standard for Motor Protection	TM/M	EN/EM/ENM/EMM	1P : One pole 2P : Two-pole 3P : Three-pole 4B : Four-pole <sup>2)</sup> 4C : Four-pole <sup>2)</sup>	
				125 : 16, 20, 25, 32, 40, 50, 63, 80, 100, 125	—		
				250 : 125, 160, 180, 200, 225, 250	250 : 32, 63, 100, 160, 250		
				400 : 250, 315, 350, 400	400 : 250, 400		
				630 : 400, 500	630 : 400, 630		
				800 : 500, 630, 700, 800	800 : 630, 800		
	1600	S : 50kA Q : 70kA H : 100kA	TM: Thermal Magnetic for Distribution Protection EN: Electronic Basic for Distribution Protection EM: Electronic Standard for Distribution Protection	TM/EN/EM		3P : Three-pole 4B : Four-pole <sup>2)</sup> 4C : Four-pole <sup>2)</sup>	MOD DC110 <sup>3)</sup> MOD DC220 <sup>3)</sup> MOD AC230 <sup>3)</sup> MOD AC400 <sup>3)</sup>
				1600 : 800, 1000, 1250, 1600			

**Note:** <sup>1)</sup> For customer needs beyond the technical requirements of the sample, you can contact the company's sales department or technical department as a special order processing; The body and accessories should be written separately when ordering. If the user requires the factory to assemble the body and accessories, it must be specified when ordering, otherwise the factory will ship separately; Motor protection is only applicable to 3P / 4P;

<sup>2)</sup> 4B: Neutral poles without protection, can be operated with other three poles;

4C: Neutral poles with protection, can be operated with other three poles.

<sup>3)</sup> Only NM8N-1600 has motor type



11.1.2 Quick selection of DC circuit breaker

NM8N

DC	-	250	S	TM	125	2P	OTHER
↓	↓	↓	↓	↓	↓	↓	↓
Current type	Frame current(A)	Breaking code	Release type	Rated current(A)	Poles	Special requirement	
DC : Direct current	125 250 400 630 800	B : 25kA C : 36kA S : 50kA Q : 70kA H : 100kA	TM: Thermal Magnetic for Distribution Protection	125 : 16, 20, 25, 32, 40, 50, 63, 80, 100, 125  250 : 125, 160, 180, 200, 225, 250  400 : 250, 315 350, 400  630 : 400, 500  800 : 500, 630 700, 800	1P : One pole <sup>1)</sup> 2P : Two-pole <sup>1)</sup> 3P : Three-pole 4P : Four-pole		
	1600	B : 25kA C : 36kA	TM: Thermal Magnetic for Distribution Protection	1600 : 800, 1000, 1250, 1600	3P : Three-pole 4P : Four-pole		

Note: <sup>1)</sup> 1P / 2P is limited to 125 and 250 frame products.

## Asia Pacific

### China | Global HQ

#### Zhejiang CHINT Electrics Co., Ltd.

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Fax: +86 21 5677 7777  
Email: global-sales@chintglobal.com  
Website: www.chintglobal.com

### Singapore | Asia Pacific HQ

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Address: 8 Kallang Avenue, #04-06/09 Aperia Office Tower 1, Singapore 339509.  
Tel: +65 6329 3110  
Fax: +65 6329 3159  
Website: www.chintglobal.com

### Sunlight Electrical Pte Ltd

Address: 1 Third Chin Bee Road, Singapore 618679.  
Tel: +65 6741 9055  
Fax: +65 6265 4586  
Email: sales@sunlightgroup.com  
Website: www.sunlightgroup.com

### India

#### CHINT India Energy Solution Private Limited

Address: Discovery Tower, Plot No. A-17, Ground Floor Industrial Area Sector 62 Noida, India 201309.  
Tel: +91 1202 9750 57  
Email: marketing@chint.co.in  
Website: www.chint.co.in

### Philippines

#### CHINT Electric Co., Ltd

Address: Unit 201, Taipan Place, F. Ortigas Jr. Road, Ortigas Center, Pasig City, Metro Manila, Philippines.  
Tel: +63 967 273 0174 / +63 977 017 6320  
Email: liq07@chintglobal.com / wencell@chintglobal.com  
Website: www.chintglobal.com

### Indonesia

#### PT. CHINT Indonesia

Address: Kompleks Prima Center I, Blok C9-10, Jl. Pesing Poglar Jl. Pool PPD No. 11, RT.9/RW.2, Cengkareng, Jakarta Barat.  
Tel: +62 21 5436 3000  
Email: sales@chint-indonesia.com  
Website: www.chint-indonesia.com

### Vietnam

#### CHINT Vietnam Holding Co., Ltd

Address: So 2Bis-4-6, Le Thanh Ton, P. Ben Nghe Quan 1, Ho Chi Minh, Vietnam.  
Tel: +84 0283 8270 015  
Email: marketing.vn@chintglobal.com  
Website: www.chintglobal.vn

### Sunlight Electrical (VN) Co., Ltd

Address: 20 Doc Lap Ave, VSIP, Thuan An City, Binh Duong Province, Vietnam.  
Tel: +84 0274 3743 505  
Email: sales.sev@sunlightgroup-vn.com.vn  
Website: www.sunlightvietnam.com.vn

### Cambodia

#### CHINT (Cambodia) Power Equipment Co., Ltd

Address: No.15, St. 542, Sangkat Boeung Kok 1, Khan Toul Kork, Phnom Penh, Cambodia.  
Tel: +855 23 231 077  
Email: lbin3@chintglobal.com  
Website: www.chintglobal.com

### SchneiTec CHINT Co., Ltd

Address: Ansor Kdam Village, Sna Ansa Commune, Krakor District, Pursat Province, Cambodia  
Tel: +855 09 5353 268  
Email: liubin@schneitec-chint.com.kh / info@schneitec-chint.com.kh  
Website: www.schneitec-chint.com.kh

## Latin America

### Brazil

#### CHINT Elétricos América do Sul Ltda.

Add: Av. Paulista, 1765 - Edifício Scarpa - Conjunto 22, Bela Vista - CEP 01311-200 - São Paulo - SP  
Tel: +55 (11) 3266-7786  
E-mail: chintbr@chint.com

### Peru

#### CHINT LATAM (PERU) S.A.C.

Add: Av. Camino Real No.348, Torre El Pilar, Oficina 603, San Isidro, Lima 27, Peru  
Tel: +51 1 763 4917  
Email: chintlatamperu@chint.com

### Ecuador

#### CHINT ELECTRICS (HONG KONG) LIMITED (Ecuador Branch)

Add.: Calle: REP.DEL SALVADOR Número: 10-84 Intersección: AV NACIONES UNIDAS  
Edificio: CENTRO COMERCIAL MANSION BLANCA  
Email: lufz@chintglobal.com