

Europe

Italy

CHINT Italia Investment Srl

Add: Via Bruno Maderna 7 30174 Venezia Tel: +39 041.446614 Fax +39 041.5845900 E-mail: info@chint.it

Spain

CHINT Electrics S.L.

Add: Calle José Echegaray, Num 8.Parque Empresarial Las RozasEdifificio 3, Planta Baja, Ofificina 7-8.C.P: 28232 Las Rozas (Madrid) Tel: +34 91 645 03 53 E-mail: info@chint.eu

Czech Republic

NOARK Electric Europe s.r.o.

Add: Sezemická 2757/2, 193 00 Prague 9 Tel: +420 226 203 120 Email: europe@noark-electric.com

Turkey

CHINT Turca Elektrik Sanayi VE Ticaret Anonim Sirketi

Add: Zumrutevler Mahallesi Ural Sokak No. 22/18 NAS PLAZA B Block KAT 1, Maltepe, Istanbul Tel: +90216 621 00 55 Fax:+90216 621 00 50 E-mail: fatura@chint.com.tr

West Asia & Africa

Egypt

CHINT Electrics (Egypt) Co., Ltd Add: Building B16 - Smart village, Abu Rawash - Giza, Egypt Tel: +20 1097173769 P.O BOX : 00202 Email: chinteg@chintglobal.com

Kenya

ZHENGTAI ELECTRICS(KENYA) CO., LIMITED

Add: OFFICE 1A, 8TH FLOOR, KISM TOWERS, LR No. 209/945/1– NGONG ROAD – NAIROBI, KENYA Tel: +254 072256485 Email: chintkenya@chintglobal.com

U.A.E CHINT MIDDLE EAST AND AFRICA DMCC

Add: Unit No: 2101, 21085,2109, Jumeirah business center 1, Cluster G, Jumeirah Lakes Towers, Dubai, UAE Tel: +97145571532 P.O BOX: 337555 E-mail: global-sales@chint.com

Nigeria

CHINT POWER & ENERGY SERVICES CO., LIMITED

Add: 3RD FLOOR TOWER 2, CHURGATE BUILDING , VICTORIA ISLAND, LAGOS Tel: +234 8110728119 E-mail: czjie@chintglobal.com

North America

United States

NOARK Electric (USA) Inc Add: 2188 Pomona Blvd., Pomona, CA 91768 Tel: 626-330-7007 Fax: 626-330-8035 E-mail: nasales@noark-electric.com

Mexico

CHINT SOLAR MEXICO S DE RL DE CV

Add: Miguel Cervantes Saavedra 169 Piso 11 Col. Granada Del. Miguel Hidalgo C.P. 11520 CDMX, México Tel: +52 1-55-8881-6127 E-mail: info@chint-mexico.com



CHINT GLOBAL PTE. LTD. Building A3, 3655 SiXian Road, Songjiang District, Shanghai, China

Tel: +86-21-5677 7777 Web: www.chintglobal.com E-mail: global-sales@chintglobal.com

A CHNT COMPANY

Printed by CHINT C

©CHINT GROUP ALL RIGHTS Reserved Recycle Paper Printed 2022.07



Empower the World



NM3DC High-voltage (HV) Series DC Molded Case Circuit Breaker

ABOUT CHINT



CHINT A leading global provider of smart energy solutions

CHINT was established 38 years ago in 1984 and built from the capital of approximately 8,000 US dollars. With our rapid development these years, CHINT has become the world's leading intelligent energy solutions provider for the whole industrial chain with the most complete product ranges. In 2021, our annual sales revenue exceeded 16.1 billion dollars and total assets of more than 16.2 billion.

Over two decades of global expansion, our business network covers more than 140 countries and regions worldwide in business industries of low-voltage electric, power transmission and distribution, smart technology, energy instruments and meters, green energy, solar and more. CHINT has more than 40,000 employees worldwide, creating more than 200,000 jobs in the industrial chains.

As the market localization progresses steadily, CHINT Global further establishes its supply chain through business integration and industrial upgrade. Optimizing the service system and project financing, providing innovatively integrated technical services for the global energy market, and a flexible working business model.energy, intelligent manufacturing and digital technology, CHINT has adopted "One Cloud & Two Nets" as the business strategy, takes "CHINT Cloud" as the carrier of intelligent technology and data application, and takes the lead in building the energy Internet of things (EIoT) and industrial Internet of things platforms (IIoT).

Focusing on the energy system of supply, storage, transmission, distribution and consumption, CHINT has core businesses of clean energy, energy distribution, big data and energy value-added services. Furthermore, CHINT's pillar businesses include photovoltaic equipment, energy storage, power transmission & distribution, low-voltage apparatuses, intelligent terminals, software development and control automation. By developing into a platform-based enterprise, CHINT provides a package of energy solutions for public institutions, industrial & commercial users and end-users, by building a regional smart energy operation ecosphere.

Main Businesses



Clean Energy



Intelligent Manufacturing



Apparatus



Industry Automation





Smart Heating



Instrumentation and Apparatus



Smart Water







Home Electrical Apparatus



Intelligent Building



Energy Efficiency Management

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



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.



24 research institutes



The average annual R&D investment accounts for 4-12% of the revenue



Over 6000 patents in total

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.



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



Great Quality System

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





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 accurat e 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.





Contents

1.General	01
2.Operating conditions	01
3.Type designation	02
4.Product Technical Parameters	02
5.Release	03
6.Tripping curve	03
7. Installation and Sizes	04
8.Accessories	<mark>0</mark> 8
9.Supplemented Technical Information	13



1.General

NM3DC High-voltage (HV) Series DC Molded Case Circuit Breaker, which is designed solely for making and breaking electrical circuits with rated voltage DC1500V at maximum rated current of 630A electrical systems. The Circuit Breaker can reliably protect the electrical system when the electrical loading of the system is overloaded or short-circuited.With its compact shape and excellent performance,NM3DC HV can fully meet the needs of the new energy industry and ensure the safety of DC power systems.

2. Operating conditions

2.1 Temperature:

Operating and storage temperature is -40° C \sim +70° C; the average value within 24 hours does not exceed +35° C; when the ambient temperature is -40° C \sim +70° C, users need to consider derating or temperature compensation whose details can be referred to in Page.

2.2 Altitude: \leq 2000m;

If the altitude of installation site for the Product is higher than 2000m, it shall be used with reference to the derating factor at higher altitude.

2.3 Pollution grade: Grade 3;

2.4 IP grade: IP20

2.5 Compliance Standards

This Circuit Breaker complies with the regulation of GB/T 14048.2 Low-voltage Switchgear and Controlgear-- Part 2: Circuit Breakers specification;

And it also complies with the regulation of IEC 60947.2 Low-voltage Switchgear and Controlgear-- Part 2: Circuit Breakers specification.

3.Type designation



4. Product Technical Parameters

Product Model			NM3DC-400	NM3DC-630		
Case Frame Current In (A)			400	630		
Number of Poles			2P			
Rated Current In (A)			200、225、250、280、300、315、 350、400	200、225、250、280、300、315、 350、400、450、500、550、630		
Rated Insulation Volta	ge Ui (∨)	1500			
Rated Impulse Withsto	and Vol	tage Uimp (kV)	12			
Rated Working Voltag	e Ue (V	()	DC1500			
Release Type			ТМ			
Use Category			A	A		
	Long-delay Protection In(A)		1			
Protection Functions	Instantaneous Protection li(×In)		5、10			
Isolation Function			Yes			
Working Environment	Tempe	rature (°C)	-40 ~+70			
Rated Limit Short-cir (kA)	cuit Br	eaking Capacity Icu	15			
Rated Operating Short-circuit Breaking Capacity lcs (kA)		it Breaking Capacity	15			
Mechanical Life (Cycle)			7000			
Electrical Life (Cycle)			1000			
Overall and Installation	n	Width (W)	98	98		
		Height (H)	275	275		
		Depth (D)	124	124		

5.Release

5.1 Release Characteristic

Thermal Magnetic- type (TM)	Release	Rated Current (A)	Setting Mode of Protection Current	Protection Features	
Overland Protection	400	200-400		I ² t= Constant, 1.05In (Cold	
Overload Protection	630	200-630	Fixed	(Hot state): Tripping in 2h.	
Shart size it Protestion	400	200-400	Fixed	5/10km + 20%	
Short-circuit Frotection	630	200-630		5/10m,±20%	

6.Tripping curve













7.Installation and Sizes

- 7.1 Wiring Method and Installation Dimensions
- 7.1.1 Wiring Mode of DC System

Grounding Type	Single Pole Grounding Sy	stem	Ungrounded System		
Circuit Diagrams		R			
		A			
	Fault A	Maximum Short-circuit Current I _{sc}	Fault A	No effect	
Fault Effect	Fault B	Maximum Short-circuit Current I _{sc}	Fault B	Maximum Short-circuit Current I _{sc}	
	Fault C	No effect	Fault C	No effect	
≤DC1500V	Load X X		1: To ensure that the inst will not cause new secon	allation wiring method dary grounding fault.	

7.1.2 Installation Dimensions

NM3DC-400/630



7.2 Opening Sizes in front of Panel





7.3 Dimension Drawings of Coupling Plate and Conductor









Unit: mm

7.4 Installation Safety Clearance



8.Accessories

8.1 Auxiliary Contact (AX)

8.1.1 Function



The accessory that can remotely indicate the ON or OFF / TRIP status of the Circuit Breaker is connected to the auxiliary circuit of the Circuit Breaker.

8.1.2 Model description



8.1.3 Circuit Breaker status indication

When the Circuit Breaker is in the "OFF" / "TRIP" position	AX12 AX14	AX11
When the Circuit Breaker is in the "ON" position	AX12 AX14	AX11

8.1.4 Electrical characteristics

Pertod Working Voltage (V)	Rated Working Current (A)		
Kalea working voltage (v)	AC-15	DC-13	
AC110	5	-	
AC240	4	-	
AC415	3	-	
DC110	-	0.25	
DC220	-	0.25	

8.1.5 Wiring diagram

The Auxiliary Contact can form a control circuit with the indicator. When the distribution cabinet is not opened, the opening /closing status of the Circuit Breaker can be determined by the indicator.



8.2 Alarm Contact (AL)

8.2.1 Function



The Alarm Contact is mainly used to provide signal when the Circuit Breaker breaks down or trips freely. The causes of the fault indication signal sent by the Alarm Contact are: Over-load or short-circuit tripping; Under-voltage tripping; Free tripping by Manual.

8.2.2 Model description



8.2.3 Circuit Breaker status indication

When the Circuit Breaker is in the "OFF" / "TRIP" position	AL12	AL11
When the Circuit Breaker is in the ON position	AL12 0 AL14	AL11

8.2.4 Electrical characteristics

Pertod Working Voltage (V)	Rated Working Current (A)		
Kalea working voltage (v)	AC-15	DC-13	
AC110	5	-	
AC240	4	-	
AC415	3	-	
DC110	-	0.25	
DC220	-	0.25	

8.2.5 Wiring diagram

The Alarm Contact can be connected with the indicator, buzzer, etc., when the Circuit Breaker free trips or fault cause to trip, the state of the Circuit Breaker can be determined by them.



8.3 Auxiliary Alarm Contact (AXL)

8.3.1 Function



The accessory that can remotely indicate the ON or OFF / TRIP status of the Circuit Breaker is connected to the auxiliary circuit of the Circuit Breaker.

The Alarm Contact is mainly used to provide signal when the Circuit Breaker breaks down or trips freely. The causes of the fault indication signal sent by the Alarm Contact are: Over-load or short-circuit tripping; Under-voltage tripping; Free tripping by Manual.

8.3.2 Model description

.



8.3.3 Circuit Breaker status indication

	When the Circuit Breaker is in the "OFF" / "TRIP" position	AX12 AX11
	When the Circuit Breaker is in the "ON" position	AX12 AX11
AAL	When the Circuit Breaker is in the "OFF" / "ON" position	AL12 AL11
	When the Circuit Breaker is in the "TRIP"(Alarm) position	AL12 AL11

8.3.4 Electrical characteristics

Dente d Mandrinen Malterine (M)	Rated Working Current (A)		
Kaled Working Voliage (V)	AC-15	DC-13	
AC110	5	-	
AC240	4	-	
AC415	3	-	
DC110	-	0.25	
DC220	-	0.25	

8.3.5 Wiring diagram

The Auxiliary Contact can form a control circuit with the indicator. When the distribution cabinet is not opened, the opening /closing status of the Circuit Breaker can be determined by the indicator.

The Alarm Contact can be connected with the indicator, buzzer, etc., when the Circuit Breaker trips freely or fails to trip, the state of the Circuit Breaker can be determined by them.



8.4 Shunt Release (SHT)

8.4.1 Function



The Shunt Release is an accessory for remote control of opening. When the power supply voltage is equal to any voltage between 70% and 110% of the rated control power supply voltage, the Shunt Release can act reliably. The Shunt Release acts according to the electrical signal, which can realize the remote control and automatic control of the Circuit Breaker.

8.4.2 Model description



8.4.3 Electrical characteristics

Case	•	Power Loss (W)					
Fram	ne	AC110V	AC220-240V	AC380-415V	DC24V	DC110-120V	DC220V
400/	630	105	193	640	78	105	56

8.4.4 Operating Characteristics

Reliable Operating Voltage		70%~110%×Us
Power on Time (Pulse-type)	Minimum Value	10ms
	Maximum Value	1s
Response Time		30ms
Number of Operations		1000

8.4.5 Wiring diagram

The Shunt Release can form a control circuit with contact switch and auxiliary power supply. After being powered on, the Shunt Release will disconnect the Circuit Breaker instantaneously to realize the opening of remotely operated Circuit Breaker.



8.5 Shunt Release + Auxiliary Contact (SHTA)

8.5.1 Function



SHTA is an integral accessory with the functions of Shunt Release and Auxiliary Contact.

8.5.2 Model description



8.6 Shunt Release + Auxiliary Alarm Contact (SHTB)

8.6.1 Function

SHTA is an integral accessory with the functions of Shunt Release and Auxiliary Contact.

8.6.2 Model description





8.7 Interphase Insulating Barrier - Standard

8.7.1 Function

The Interphase Insulating Barrier is a safety accessory, which is used for the isolation between the phases of the Circuit Breaker, and can ensure the best insulation effect at the wiring. It can be simply installed to be clamped on the Circuit Breaker and Terminal Protective Cover.



8.8 Terminal Protective Cover- Standard

8.8.1 Function

To reduce front-end arc-flash, improve insulation performance, and prevent phase to phase short-circuit. There are knockout holes in front of the Terminal Protective Cover for cables of various lugs and wiring in front of the board. IP Grade: IP40.

9.Supplemented Technical Information

9.1 Power Loss Table

Rated Current (A)	Single Pole Internal Resistance of Fixed Circuit Breaker ($M\Omega$)	Power Loss per Pole (W)
200	0.4	16
225	0.35	17.7
250	0.35	21.9
280	0.25	19.6
300	0.25	22.5
315	0.25	24.8
350	0.25	30.6
400	0.2	32
450	0.2	40.5
500	0.15	37.5
550	0.15	45.4
630	0.12	47.6

9.2 Table of Temperature Compensation Coefficient

Air Temperature (°C) Rated Current(A)	-40°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30℃	40°C	50°C	60°C	70°C
200	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.95	0.9	0.85
225	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.95	0.9	0.85
250	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.95	0.9	0.85
280	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.95	0.9	0.86
300	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.95	0.9	0.86
315	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.95	0.9	0.86
350	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.95	0.84	0.79
400	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.98	0.93	0.8
450	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.98	0.92	0.8
500	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.98	0.92	0.8
550	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.92	0.84	0.78
630	1.4	1.35	1.3	1.25	1.2	1.15	1.1	1.05	1	0.92	0.84	0.78

9.3 Altitude Derating Coefficient Table

Altitude (m)	2000m	3000m	4000m
Rated current In(A)	1×In	0.97×In	0.93×In
Rated working voltage Ue(V) DC	1×Ue	0.9×Ue	0.8×Ue
Rated insulation impulse voltage Uimp (kV)	12	10	8
Dielectric properties (V) DC	3820	3500	3100





Asia Pacific

China | Global HQ

Zhejiang CHINT Electrics Co., Ltd.

Address:A3 Building, No. 3655 Sixian Road, Songjiang Shanghai 201614. Tel: +86 21 5677 7777 Fax: +86 21 5677 7777 Email: global-sales@chintglobal.com Website: www.chintglobal.com

Singapore Asia Pacific HQ CHINT Global Pte Ltd

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.sunlightvetnam.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: Ibin3@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: +511 763 4917 Email: chintlatamperu@chint.com

Ecuador

CHINT ELECTRICS (HONG KONG) LIMITED (Ecaudor Branch)

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

E-mail: lufz@chintglobal.com