

7 Derating Coefficient of Circuit Breaker with Residual Current Protection

NM8NL-125		NM8NL-250			NM8NL-(400)630		
Rated current In(A)	Derating Factor	Rated current In(A)	Derating Factor		Rated current In(A)	Derating Factor	
	(TM)		(TM)	(EN/EM)		(TM)	(EN/EM)
16	1	32	—	1	250	1	1
20	1	63	—	1	315	0.96	—
25	1	100	—	1	350	0.95	—
32	1	125	1	—	400	0.93	1
40	1	160	1	1	500	0.87	—
50	1	180	1	—	630	—	0.95
63	1	200	0.9	—			
80	0.95	225	0.9	—			
100	0.9	250	0.9	0.95			
125	0.8						

8 Warranty Period

8.1 Warranty Period
Under the normal storage & transportation conditions and this Product package or this Product itself is intact, the Warranty Period of this Product is 24 months from the date of production. The following conditions are not covered by the Warranty:
1) Damage caused by improper use, storage and maintenance of User/s.
2) Damage caused by disassembly and maintenance by User-self or by organization/s or personnel not designated by the Company (CHINT ELECTRICS).
3) The Product exceeds the Warranty Period.
4) Damage caused by force majeure.
8.2 Environmental Protection
In order to protect the environment, when this Product or its part/s is /are scrapped, please treat it/ them properly as industrial waste; Or to the recycling station for classified disassembly, recycling and reuse according to relevant national regulations.

CHNT

QC PASS

NM8NL Series
Residual current protection module
IEC/EN 60947-2

Check XX

Test date: Please see the packing

ZHEJIANG CHINT ELECTRICS CO., LTD.

NM8NL Series
Residual Current Protection Module
Instructions Manual

Zhejiang Chint Electrics Co., Ltd.

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The Manufacturer of this Product Has Passed the
Following Management System Certifications:
ISO 9001, ISO 14001, ISO 45001
Compliance Standard: IEC/EN 60947-2

6 Operation

Gear Adjustment

POWER

→ Power Indicator

0.03 0.05 0.1 0.2 0.3 0.5 1 2 10n (A)
0.03 0.05 0.1 0.2 0.3 0.5 1 2 10n (A)
→ Rated Residual Action Current
TIP: When the rated residual action current is
set to 0.03A,the limit non-driving time must
be set to 0.

1000 2000
100 200
2000 3000
→ Limit Non-driving Time
t(ms):100/300/500/1000/2000/3000
→ Maximum Breaking time

TR Test button

TR Reset button

Operating the Device for Trip Test

1.Ue=208V/380V/400V/415V/440V

3.Automatic Trip
CLICK!

2.Applying (85% -110%) Rated Voltage,
then Pressing the "T" button to Trip.

Before trip

After trip

Applying Leakage Current for Trip

1.Leakage

2.Automatic Trip
CLICK!

Before trip

After trip

Closing Steps of Circuit Breaker after Module Trip

2.Re-Lock

1.Reset

Before Reset

After Reset

3.Close

Accessory Installation

Alarm Contact(AL)

Here, the cover can be opened to install the Alarm Contact (AL), achieving the
additional function of "Only ALARM without TRIP" or "both ALARM and TRIP".
The maximum non-actuating time of alarming without tripping is set to 2000ms,
so actuating time of alarm is 2000~3000ms.
This accessory must be installed or disassembled by the Manufacturer, and
the Manufacturer is NOT responsible for any consequences caused by the User's
own installation or disassembly.



Safety Warning

- 1 Installation and maintenance of the Module by Professional Personnel only.
- 2 It is STRICTLY PROHIBITED to install the Module in the environment containing flammable & explosive gas and wet condensation.
- 3 When installing and maintaining the Module, the power must be turned OFF.
- 4 During the Module operation stage, it is STRICTLY PROHIBITED to touch conductive part/s.
- 5 This Module CANNOT protect against electric shock hazard/s caused by simultaneously touching two wires of the protected circuit, please be careful when using.
- 6 Please press the TEST button at least once a month to check whether the Module operates normally.
- 7 When this Module is opened due to a fault (Leakage, overload, or short-circuit) in the protected circuit, the cause must be identified and the fault must be eliminated before the closing operation can be carried out.
- 8 When conducting action characteristic tests on this Module, the Specialized Testing Instrument that has been tested and qualified by relevant national department should be used. It is STRICTLY PROHIBITED to use the test method of directly touching the grounding device with phase wires.
- 9 In order to maintain the warranty coverage, please follow the installation instructions described in this document.
- 10 In case that the product claimed has been damaged due to improper installation procedure, the faulty item may be rejected as quality claim and warranty would not apply.



This is the general warning sign. It is used to alert the user to potential hazards. All safety messages that follow this sign shall be obeyed to avoid possible harm.



1 Main Purposes and Applicable Scope

This user manual specifies the normal working conditions, main specifications, technical parameters, appearance, and installation dimensions of the NM8NL series residual current protection module.

This user manual is applicable to the NM8NL residual current protection module and is suitable for AC 50Hz/60Hz, rated voltage AC 440V or below, rated current up to 630A or below, providing indirect contact protection against fatally dangerous electrical shocks. The residual current protection module with a rated residual operating current not exceeding 0.03A can also serve as supplementary direct contact protection when other protective measures fail, but it cannot be the sole protection.

2 Model, Specification and Meaning

NM8 N L - 125 3P A RCD1 OTHER
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ① Enterprise Characteristic Code, Category Code, Design No.
- ② Series Iteration Code
- ③ Code of Residual Current Protection Module
- ④ Frame Current Code
125:125A
250:250A
400:400A
630:630A
- ⑤ Pole No. Code
3P: 3-pole
4P: 4-pole
- ⑥ Residual Current Type Code
A: A-Type
Default: AC-Type
- ⑦ Rated Residual Action Current Code
RCD1: 0.03A-0.05A-0.1A-0.2A-0.3A-0.5A-1A-2A
- ⑧ Special Requirement Code
Number According to Corresponding Special Requirements

3 Normal Service, Installation and Transportation & Storage Conditions

3.1 Service Conditions

- 1) The ambient air temperature is -40°C ~ +70°C, and the average temperature value within 24h shall not exceed +35°C.
- 2) When the maximum temperature is +40°C, the relative humidity of the air shall not exceed 50%, and a higher relative humidity can be allowed at a lower temperature (For example, it can be up to 90% at +20°C). Special measures shall be taken for occasional condensation due to temperature changes.
- 3) The altitude of the installation site shall not exceed 2000m.
- 4) Pollution Class: Class 3;
- 5) Installation Category: Class III.

3.2 Installation conditions

- 1) Under the conditions of compliance with Safety Alert, the installation site should be free from explosion hazards, corrosive gases and pay attention to moisture-proof, dust-proof, shock-proof and avoiding sun exposure.

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- 2) The installation position should avoid strong current and electromagnetic device to avoid magnetic field interference.
- 3) Before installation, the basic parameters of the Product should be checked to see if they meet the requirements and operated three times by Manual. The Product should be flexible and reliable, and confirmed to be intact before installation.
- 4) When installing, the connecting wire should use polyvinyl chloride (PVC) copper wire or equivalent copper bar.
- 5) To prevent interphase arc short- circuit, the insulation treatment should be applied to the exposed copper wire and busbar at the incoming end.
- 6) During installation stage, it is necessary to strictly distinguish between the neutral wire and the protective wire. The neutral wire of the 4-pole type should be connected to the residual current protection Circuit Breaker formed by splicing the Residual Current Protection Module with the corresponding Molded Case Circuit Breaker. The neutral wire passing through the residual current protection Circuit Breaker should not be used as a protective wire, and should not be repeatedly grounded or exposed conductive part/s of the equipment. The protective wire should not be connected to the residual current protection Circuit Breaker.
- 7) When the residual current protection Circuit Breaker is closed, the reset button "R" should be pressed first, and then the operating handle of the Circuit Breaker should be pulled down to the RE-LOCK position before closing.
- 8) The residual current protection Circuit Breaker installed separately should be easy to maintain and operate, generally 1500mm above the ground.
- 9) The pre- operation inspections are as follows:
 - ① Please check if the wiring is correct;
 - ② Please confirm that there is no short-circuit or short-circuit to ground between each wiring terminal or exposed live part;
 - ③ Please confirm that all terminal connections and fixing screws are tight and not loose.
- 10) Insulation Test: This Product has undergone insulation testing according to standards before leaving the Factory. As this Product comes with electronic component board, if the retesting is carried out before installation, the following steps must be followed:
 - ① Please use a 500VDC megohmmeter;
 - ② For the Circuit Breaker in OFF state, it is to conduct separate tests between the inlet and outlet terminals and between the three inlet terminal coupling plates (3 coupling plates connected with wires) and the housing (Covered with metal foil). For the Circuit Breaker in ON state, it is strictly prohibited to conduct any test between each phase of the Product;
 - ③ The insulation resistance should not be less than 10MΩ.
- 11) The inspection items for this Product after installation should be carried out in accordance with Article 6.3 of GB/T 13955 Installation and Operation of Residual Current Action Protection Device. The inspection items for this Product after installation are as follows:
 - ① Please operate the TEST button 3 times, and the Product should act accurately;
 - ② Please operate the switch for 3 times with residual current, and the Product should act accurately.
- 12) After this Product is put into operation, the User Company should keep operation records and establish corresponding management system/s.
- 13) In case of electric shock casualties within the scope of this Product, please check the action of this Product, analyze the reasons for failure to play a protective role, protect the site before investigation, and DO NOT disassemble this Product.

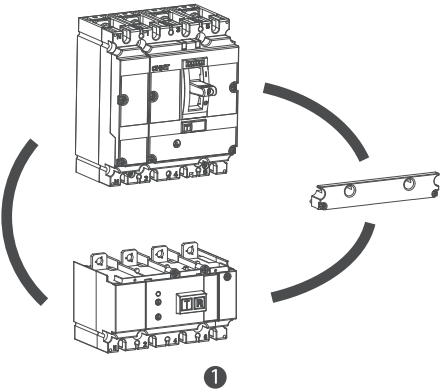
3.3 Transportation & Storage Conditions

The applicable temperature range is from - 40 °C to + 70 °C, and can reach +70°C in a short period of time (within 24 hours). The storage place shall be ventilated and dry, and shall not be attacked by rain, snow and shall not be exposed to direct sunlight.

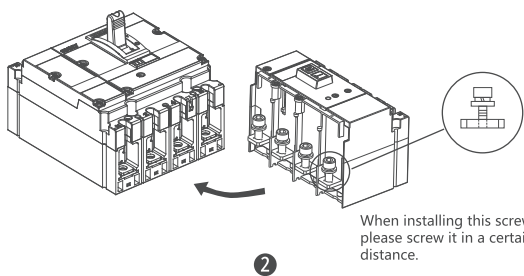
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4 Installation

General Drawing

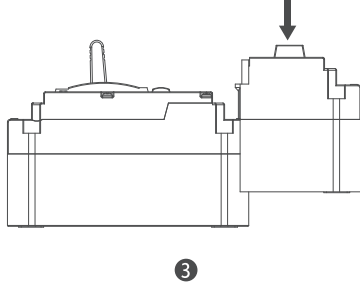


Connecting Installation



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Dislocation Installation

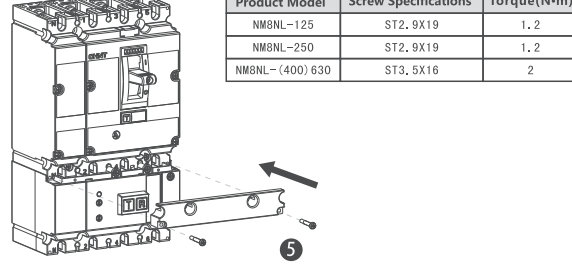


Screw Fixation

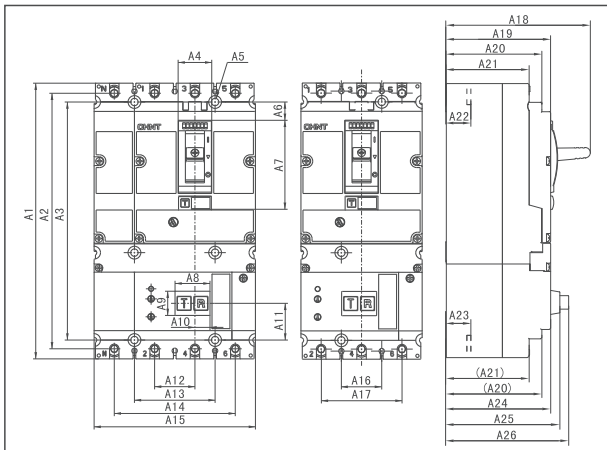
Product Model	Screw Specifications	Torque(N·m)
NM8NL-125	M6X16	6
NM8NL-250	M8X20	11
NM8NL-(400)630	M10X30	25

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Cover Plate Installation



5 Outline and Installation Dimensions



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	A1	A2	A3	A4	A5	A6
NM8NL-125/3P	205	190	177	25	2XΦ5.5	13.8
NM8NL-125/4P					4XΦ5.5	
NM8NL-250/3P	232	215	200	27	3XΦ5.5	18.8
NM8NL-250/4P					4XΦ5.5	
NM8NL-(400)630/3P	355	327	301	51.8	4XΦ5.5	27.5
NM8NL-(400)630/4P					6XΦ5.5	
	A7	A8	A9	A10	A11	A12
NM8NL-125/3P	66.7	26	18	11.2	27.3	—
NM8NL-125/4P						30
NM8NL-250/3P	75.3	28	18	14	32	—
NM8NL-250/4P						35
NM8NL-(400)630/3P	114	45	27	22.5	38.5	—
NM8NL-(400)630/4P						45
	A13	A14	A15	A16	A17	A18
NM8NL-125/3P	—	—	90	30	60	108.5
NM8NL-125/4P						
NM8NL-250/3P	—	—	105	35	70	125
NM8NL-250/4P						
NM8NL-(400)630/3P	—	—	140	45	90	171
NM8NL-(400)630/4P						
	A19	A20	A21	A22	A23	A24
NM8NL-125/3P	78.5	72	62.5	19	19	78.5
NM8NL-125/4P						
NM8NL-250/3P	88	82	72.5	22.5	22.5	88
NM8NL-250/4P						
NM8NL-(400)630/3P	113	108	96	27(≤400A) 28(>400A)	27	113
NM8NL-(400)630/4P						
	A25	A26				
NM8NL-125/3P	85.5	92				
NM8NL-125/4P						
NM8NL-250/3P	95	101				
NM8NL-250/4P						
NM8NL-(400)630/3P	119	125				
NM8NL-(400)630/4P						

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