9. Accessories characteristics and installation

The NM8N moulded case circuit breaker offers various accessory modules. For more details, please refer to page P84.

9.1 AX Auxiliary contact

9.1.1 Function

A volt-free contact to provide remote indication of the circuit breaker's ON or OFF status.

9.1.2 Model description

AX 21- M8

- Serial code:NM8N series
- Frame size code:Auxiliary contacts are universal accessories for each frame,with default as code 21
- Auxiliary contact name code

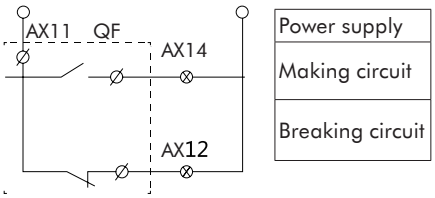
9.1.3 Indication of circuit breaker status

Circuit breaker is at breaking status	AX12, AX14, AX11
Circuit breaker is at making status	AX12, AX14, AX11

9.1.4 Electrical characteristics

Rated voltage (V)	Rated current (A)	
	AC-15	DC-13
AC 110	5	—
AC 240	4	—
AC 415	2	—
DC 110	—	0.25
DC 220	—	0.25

9.1.5 Wiring diagram



9.2 AL Alarm contact

9.2.1 Function

It is mainly used to provide a signal when the load of the circuit breaker is overloaded, short-circuited or undervoltage, or tripped.

A volt-free contact to provide remote indication that the circuit breaker has tripped due to:

- Overload or short-circuit
- Undervoltage
- Residual current
- Non-manual trips.

9.2.2 Model description

AL 21- M8

- Serial code:NM8N series
- Frame size code:Alarm contacts are universal accessories for each frame,with default as code 21
- Alarm contact name code

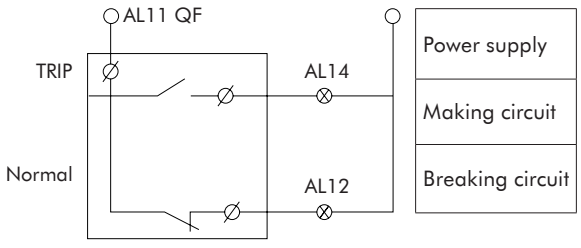
9.2.3 Indication of circuit breaker status

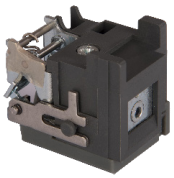
Circuit breaker is Normal	AL12, AL14, AL11
Circuit breaker has tripped	AL12, AL14, AL11

9.2.4 Electrical characteristics

Rated voltage (V)	Rated current (A)	
	AC-15	DC-13
AC 110	5	—
AC 240	4	—
AC 415	2	—
DC 110	—	0.25
DC 220	—	0.25

9.2.5 Wiring diagram



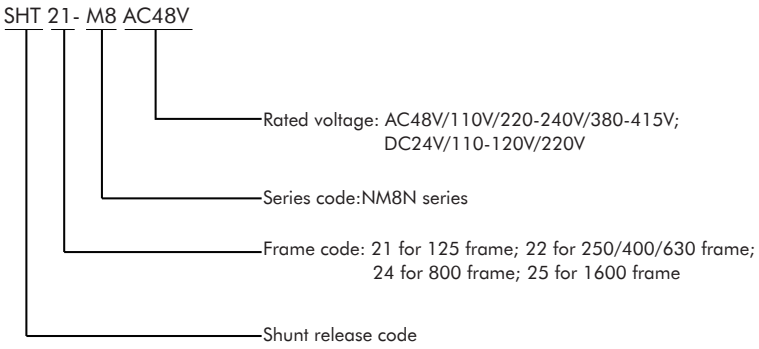


9.3 SHT Shunt release

9.3.1 Function

Shunt releases operate based on electrical signals, enabling remote control of circuit breakers. When a voltage between 70% and 110% of the rated control power supply voltage is applied to its terminals, the shunt release triggers the circuit breaker to open.

9.3.2 Model description



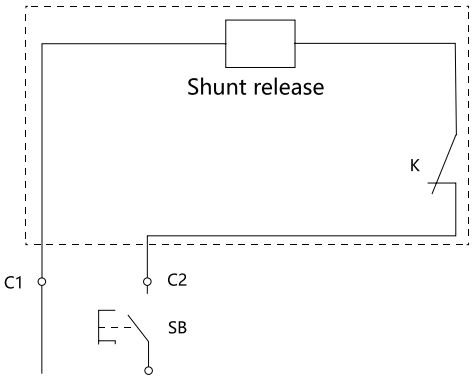
9.3.3 Electrical characteristics

Frame size	Power consumption (W)					
	AC48V	AC110V	AC220-240V	AC380-415V	DC24V	DC220V
125A	2.2	2.2	2	2.5	2.5	2
250/400/630A	2.3	2.5	2.2	2.5	2.2	2.5
800A	2.3	2.5	2.2	2.5	2.2	2.5
1600A	110	195	480	560	230	160

9.3.3 Action characteristics

The shunt release can be powered for extended periods. Response time: pulse type≥20ms,≤60ms

9.3.5 Wiring diagram



Note: When using a rated control power supply voltage of DC24V for the shunt release, the maximum length of the copper wire (each of the two wires) must meet the requirements outlined in the following table:

Conductor cross-sectional area / Rated control supply voltageUs(DC24V)	1.5mm²	2.5mm²
100%U_s	150m	250m
85%U_s	100m	160m

9.4 UVT Under-voltage release

9.4.1 Function

Undervoltage releases operate based on electrical signals, enabling remote control of circuit breakers to protect electrical equipment. When the power supply voltage at it terminals is too low, the undervoltage release triggers the circuit breaker to open.

- Undervoltage Trip (70% - 35% of rated control supply voltage):

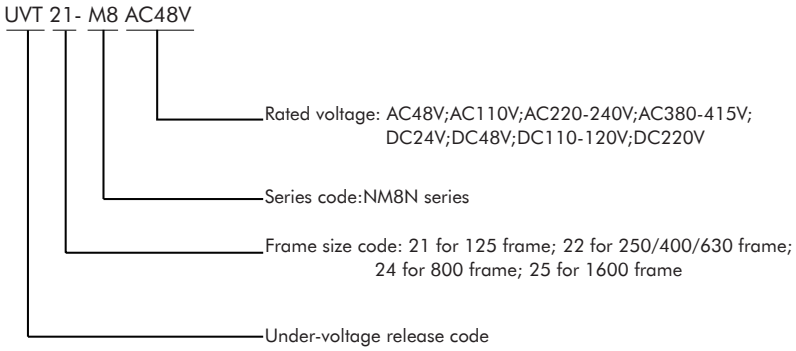
If the supply voltage drops to between 70% and 35% of the rated control supply voltage, the undervoltage release triggers the circuit breaker to open.

- Guaranteed Closure (≥ 85% of rated control supply voltage):

Once the supply voltage returns to a level that equals or exceeds 85% of the rated control supply voltage of the undervoltage release, the circuit breaker should be allowed to close.

- Prevention (Less than 35% of rated control supply voltage):

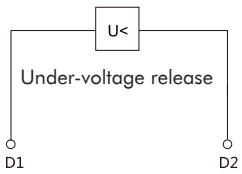
If the supply voltage drops below 35% of the rated control supply voltage of the undervoltage release, it should prevent the circuit breaker from closing.



9.4.3 Electrical characteristics

Frame size	Power consumption (W)							
	AC48V	AC110V	AC220-240V	AC380-415V	DC24V	DC48V	DC110-120V	DC220V
125A	1.6	1.6	2	3	1.2	1.6	2	2.2
250/400/630A	1.5	1.5	2.2	3	0.8	1.5	2	2.5
800A	1.5	1.5	2.2	3	0.8	1.5	2	2.5
1600A	2.6	2.2	1.7	0.7	2.8	2.5	2.2	1.8

9.4.4 Wiring diagram



9.5 MOD Motor-driven mechanism

9.5.1 Function

This system is suitable for remotely closing, opening, and re-closing circuit breakers, making it ideal for both long-distance operations and automation applications.

A: Protection level: IP40

- Reliable insulation;
- With isolation function indication;
- O (open), I (closed) and free trip 3 position indications;
- Circuit breaker free trip
- Manually or automatically operated circuit breakers for closing and opening.

B: manul operation

Pull the "manul/auto" switch to the manual position and turn the operation handle to switch on and off the circuit breaker.

C: automatic operation

Pull the "manul/auto" switch to the automatic position, and remotely press the "close or open" button to switch on and off the circuit breaker.

D: Automatically switch on or off by pulse or self-holding signal control.

E: Only when the control voltage is ≥ 85% Un and ≤ 110% Un can the circuit breaker be reliably switched on and off.

9.5.2 Model description

MOD 21- M8 AC110/DC110-120V

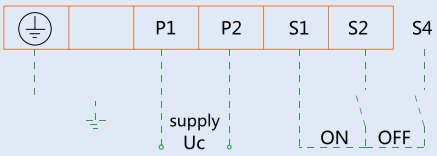
- AC110/DC110-120V: Rated voltage: AC110/DC110-120V;AC220-240V/DC220V; AC380-415V;DC24V
- M8: Series code:NM8N series
- 21: Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame; 24 for 800 frame; 25 for 1600 frame
- MOD: Motor-driven mechanism code

Note: The 1600A frame motor-driven mechanism is assembled in the factory and is suitable for electronic circuit breakers and disconnectors based on the internal structure/configuration of the circuit breaker.

9.5.3 Electrical characteristics

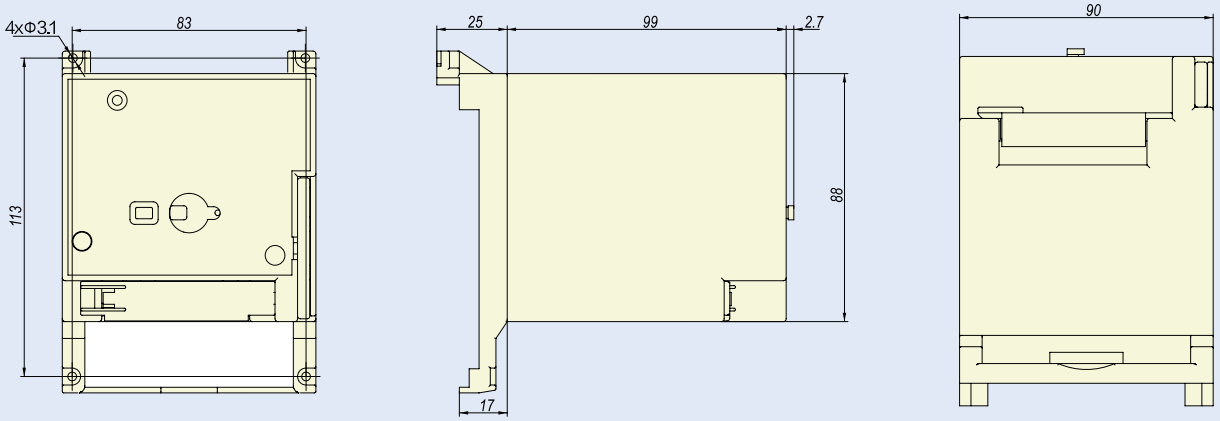
Frame size	Operational Type	Rated operational voltage	Life (CO recycle)	Power consumption	Action current	Making duration	Breaking duration	Minimum duration of ON(OFF) signal pulse
125A	MOD 21-M8	AC110V/DC110 AC220-240V DC220V AC380-415V DC24V	10000	150 150 150 100	≥3 ≥4	≤500ms	≤500ms	300ms
250A	MOD 22-M8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

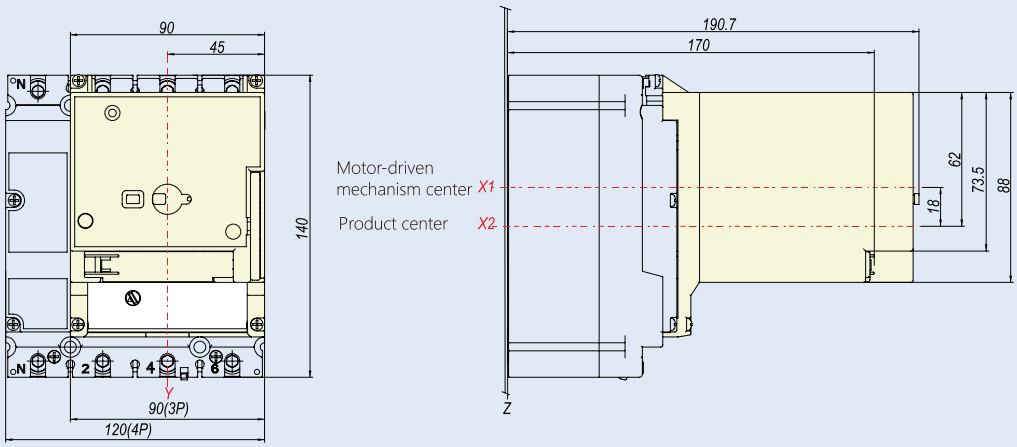
9.5.4 Wiring diagram



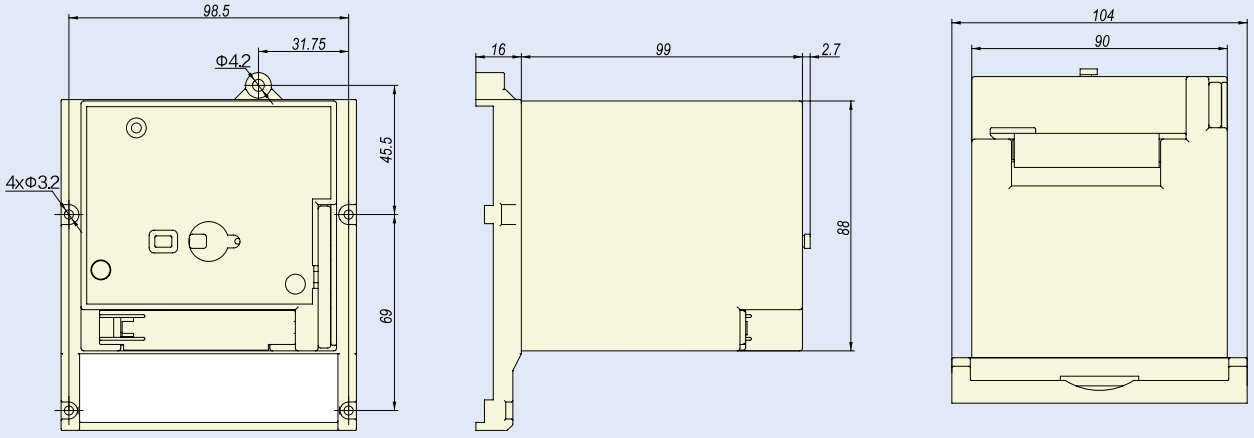
9.5.5 Installation dimension drawing

Overall and mounting dimension of MOD21-M8

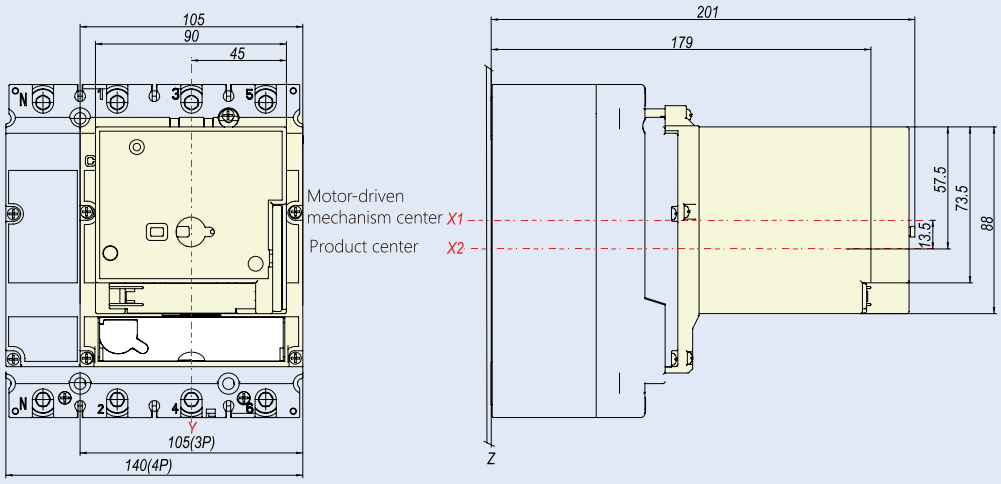




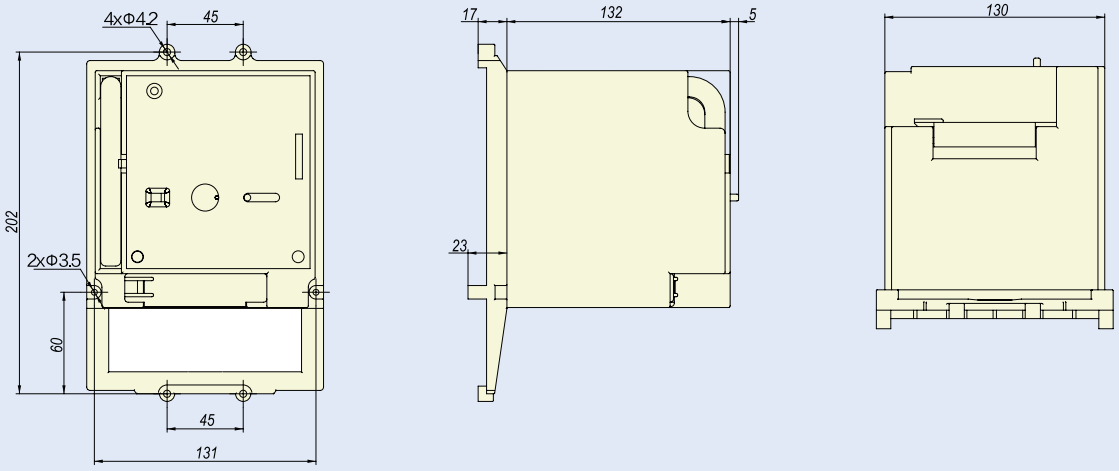
Overall dimension of MOD22-M8

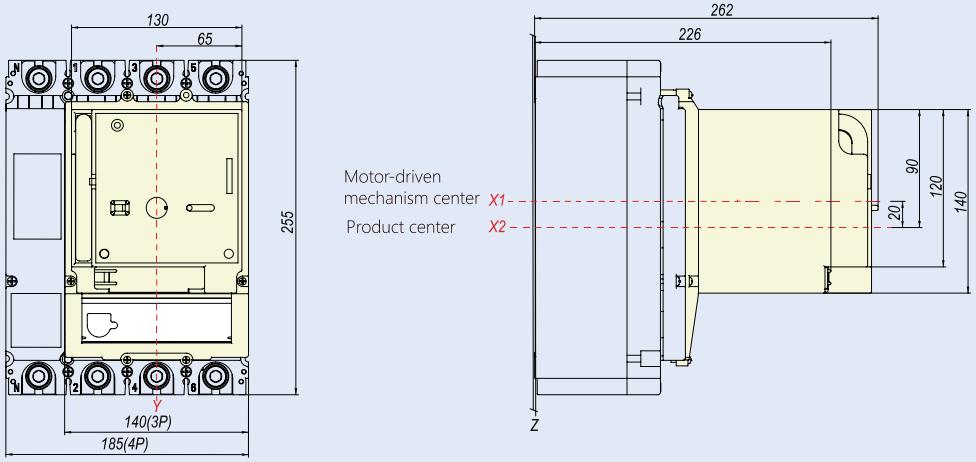


Mounting dimension of MOD22-M8

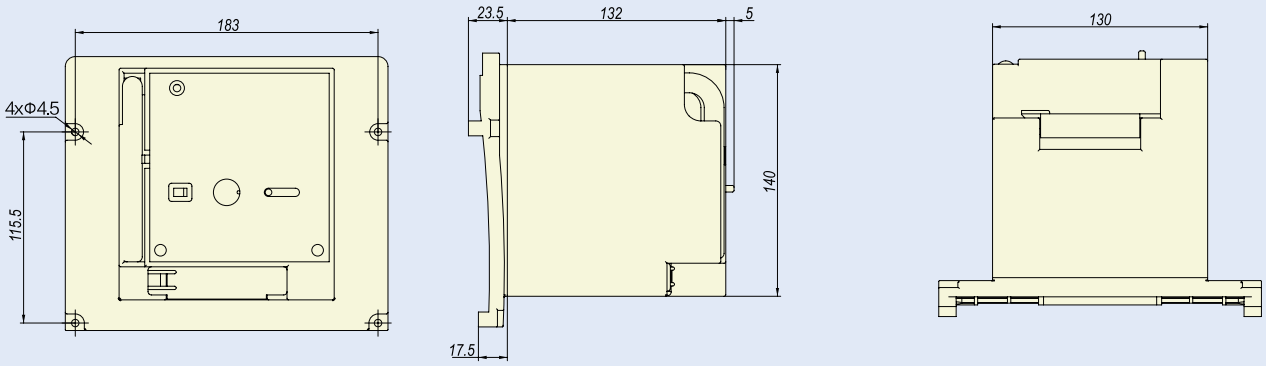


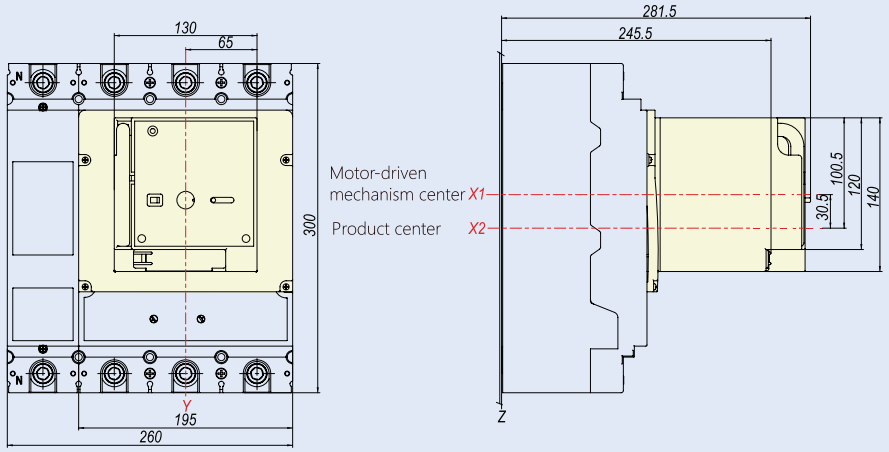
Overall and mounting dimension of MOD23-M8

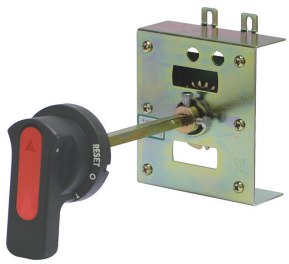




Overall and mounting dimension of MOD24-M8







9.6 SRH Economic extended rotary handle

9.6.1 Function

A unique design and transmission structure enable the circuit breaker to close, open, and reclose by rotating the handle.

Protection degree: IP30

- With isolation funtion indication;
- O (open), I (closed) and free trip 3 position indications;
- The circuit breaker can be locked in the OFF position using 1 to 3 padlocks with a diameter of 5 to 8mm. This prevents the circuit breaker from closing and ensures the switch cabinet cannot be opened.
- The rotary handle features an integrated door-interlock function that prevents the cabinet door from opening when the switch is in the ON position. In emergency situations, the cabinet door can be opened using the emergency unlocking device located on the handle.

9.6.2 Model description

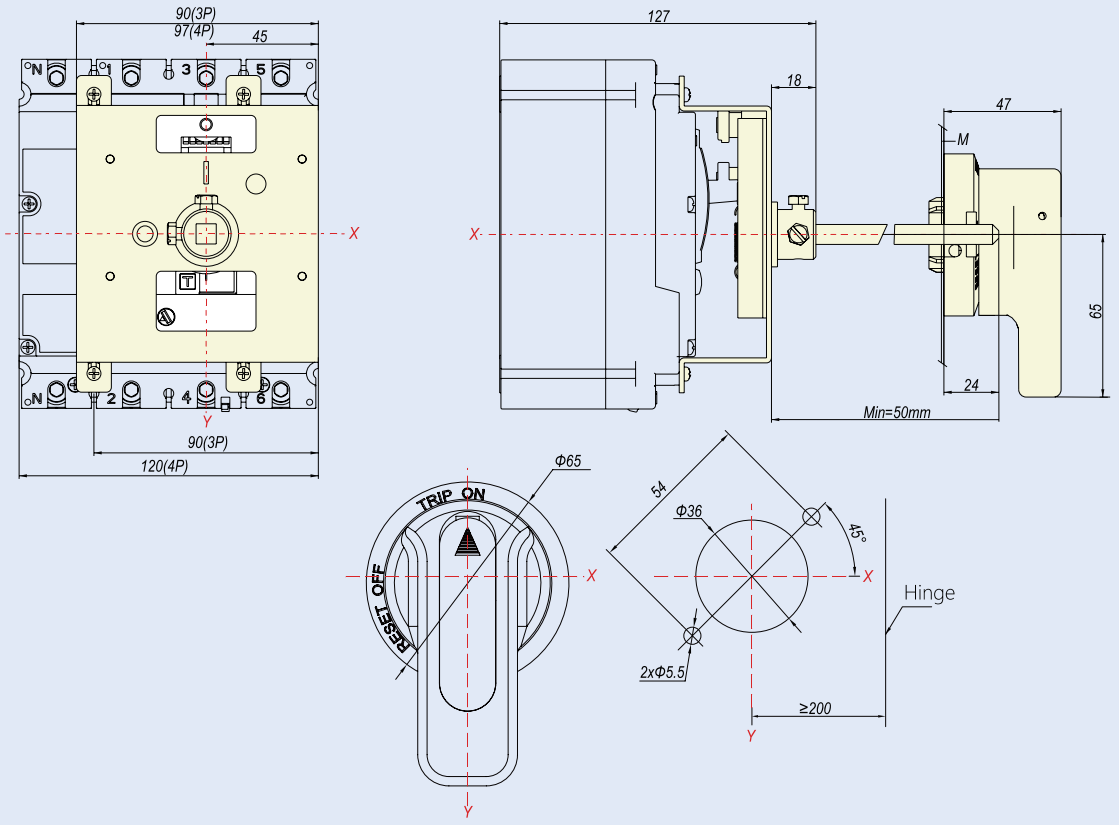
SRH 21- M8 3P

- 3P — Number of poles: 3P; 4P (only applicable to 125, 250 frames);400A and above frames have no code
- M8 — Series code:NM8N series
- 21 — Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame; 24 for 800 frame; 25 for 1600 frame
- SRH — Economic extended rotary handle code

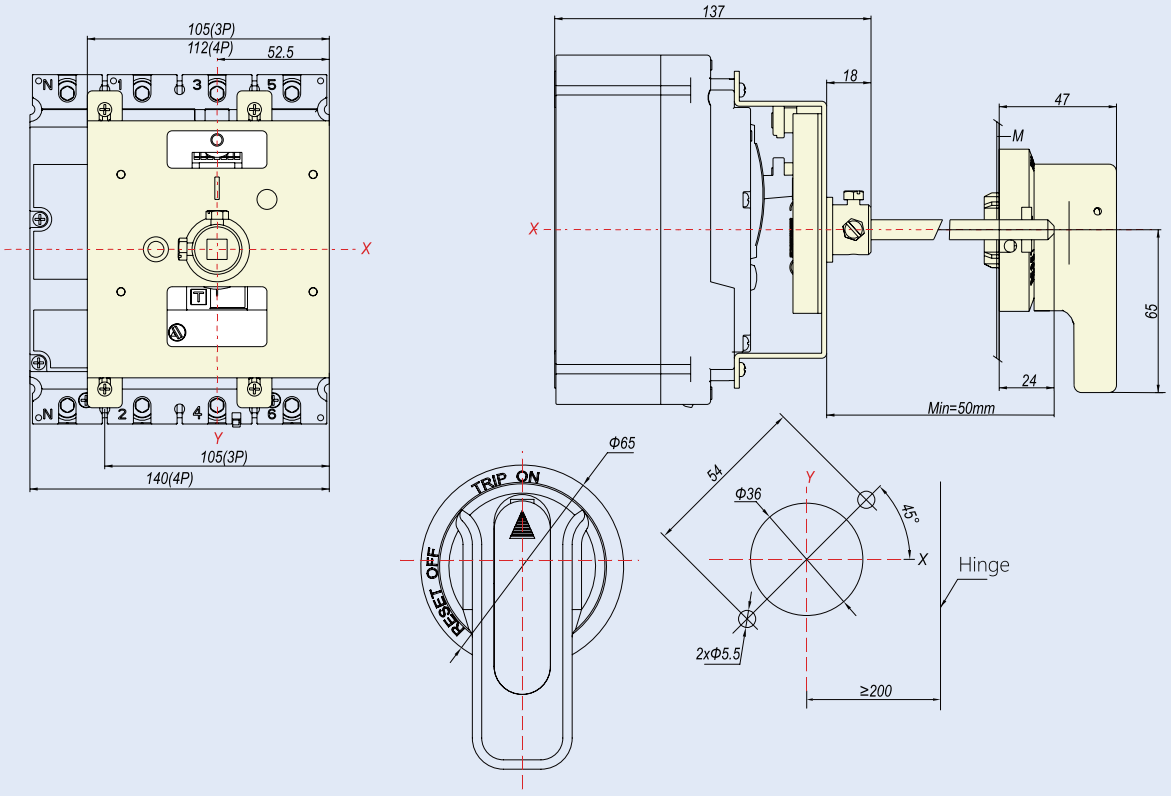
Note: default length of shaft is 150mm

9.6.3 Installation dimension drawing

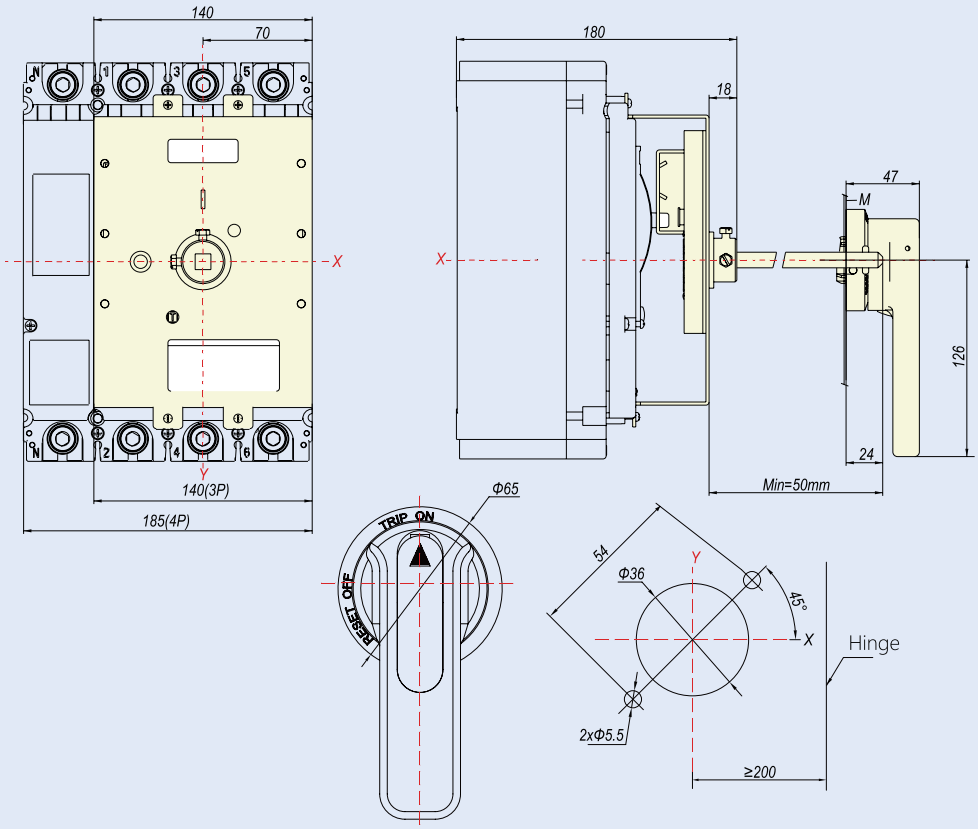
Overall and mounting dimension of SRH21-M8



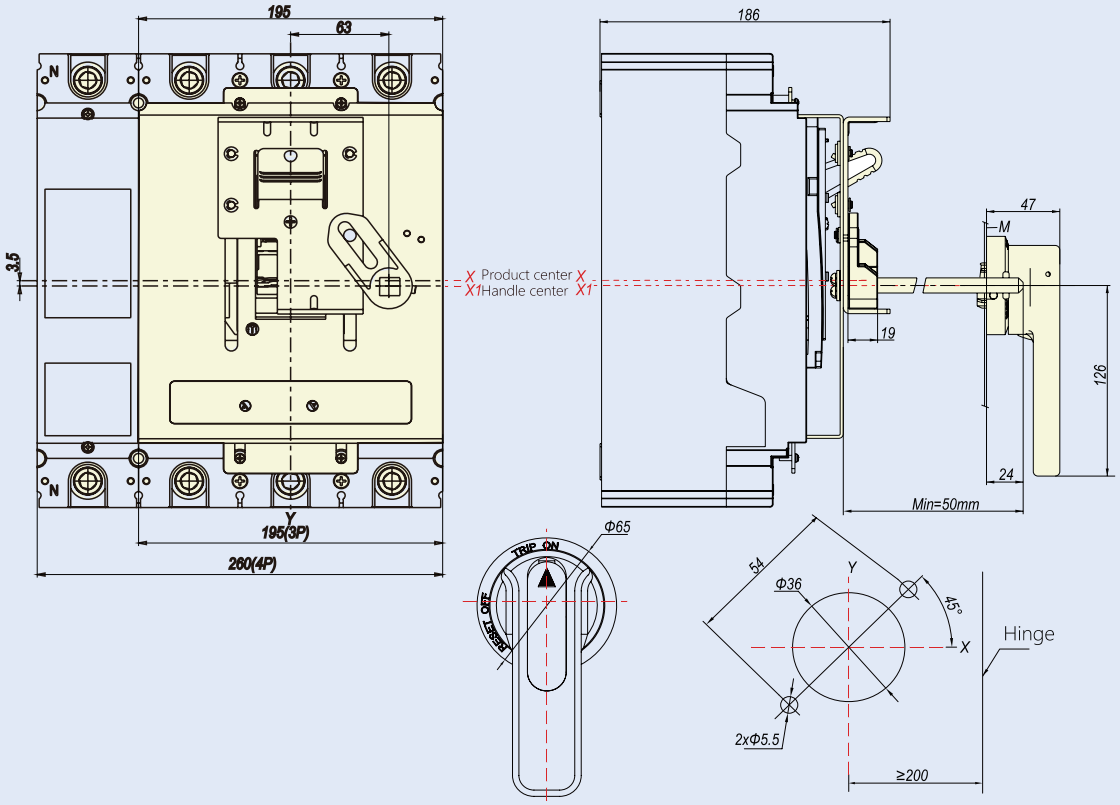
Overall and mounting dimension of SRH22-M8



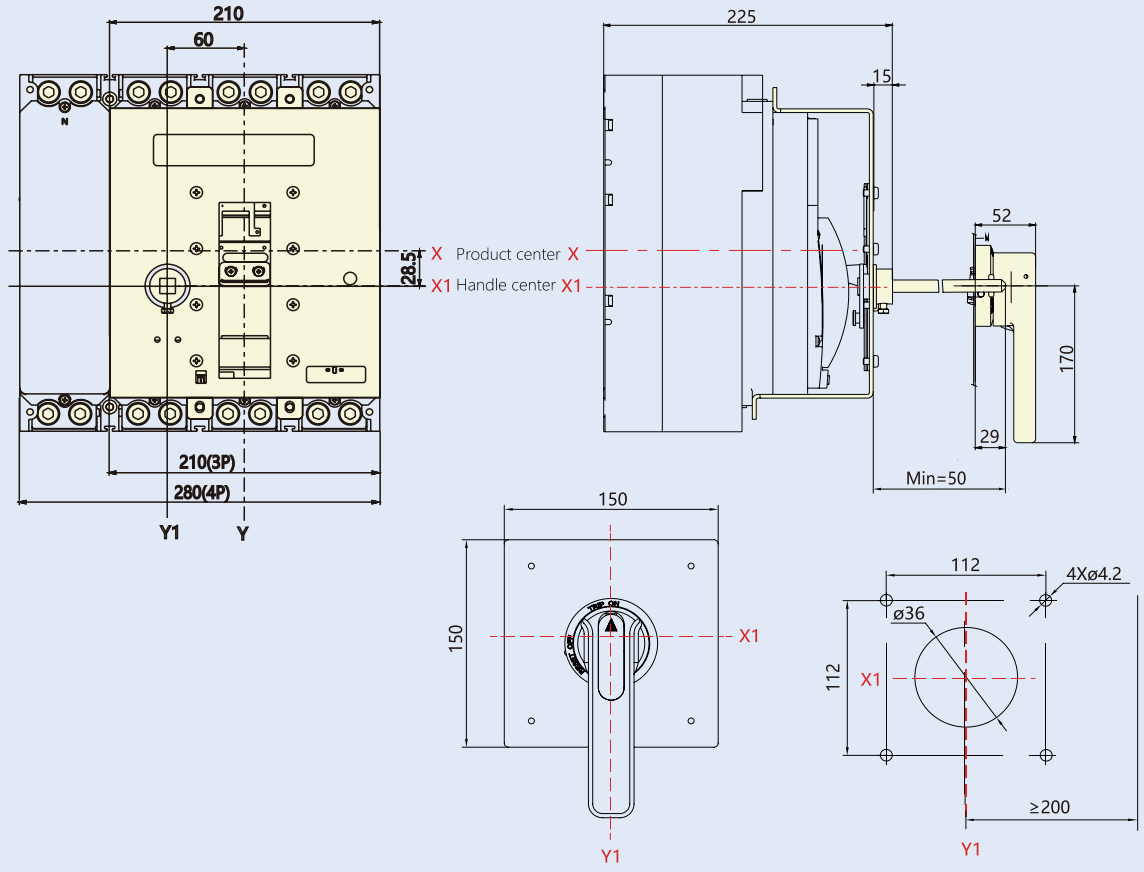
Overall and mounting dimension of SRH23-M8



Overall and mounting dimension of SRH24-M8



Overall and mounting dimension of SRH25-M8



9.7 DRH Direct rotary handle

9.7.1 Function

A unique design and transmission structure enable the circuit breaker to be closed, opened, and reclosed by rotating the handle.

Protection degree: IP40

- Reliable insulation;
- With isolation function indication;
- O (open), I (closed) and free trip 3 position indications;
- The circuit breaker can be locked in the OFF position through 1~3 padlocks with a diameter of
- 5~8mm.
- (Padlock user prepared)

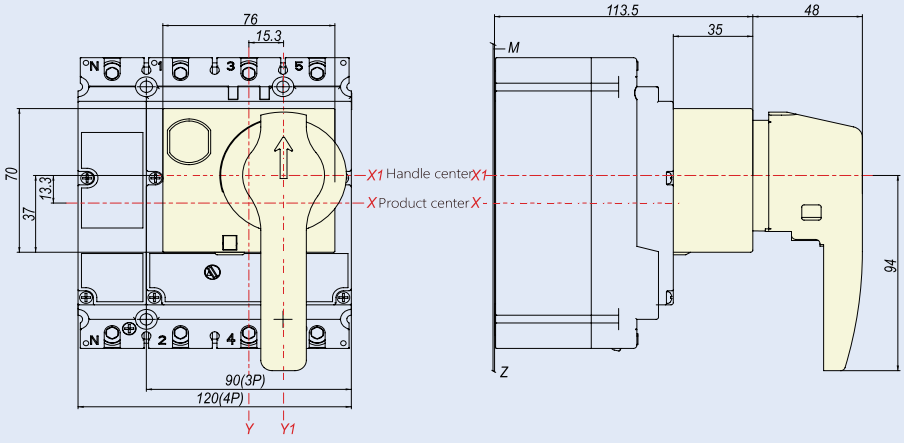
9.7.2 Model description

DRH 21- M8 T

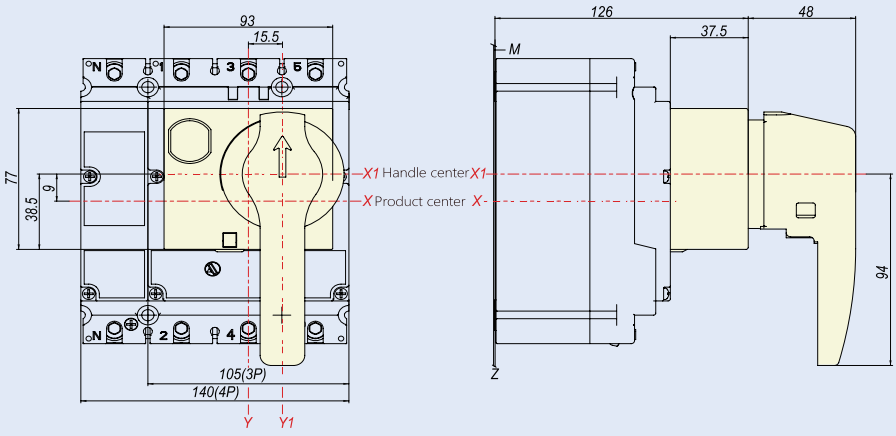
- T: Circuit breaker type: T: Thermal magnetic circuit breaker, M: Magnetic circuit breaker, SD: Switch disconnector; E: Electronic circuit breaker
- M8: Series code:NM8N series
- 21: Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame;
- DRH: Direct rotary handle code

9.7.3 Installation dimension drawing

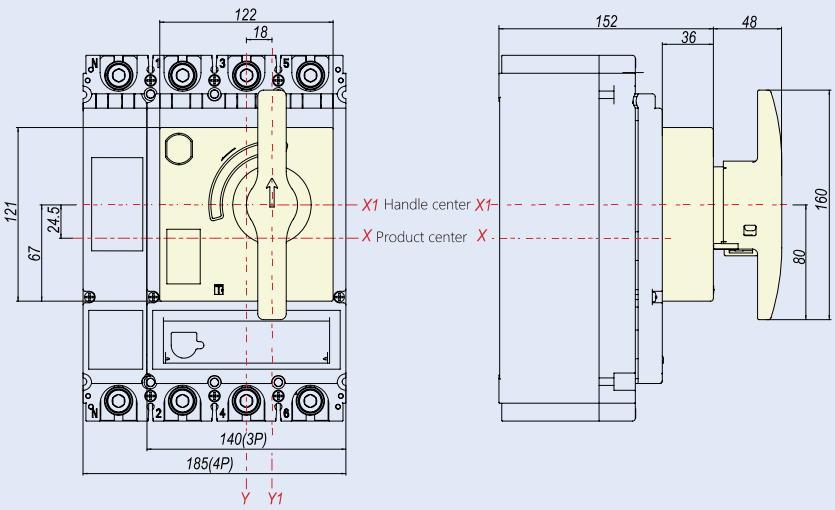
Overall dimension of DRH21-M8



Overall dimension of DRH22-M8



Overall dimension of DRH23-M8



9.8 ERH Extended rotary handle

9.8.1 Function

A unique design and transmission structure enable the circuit breaker to close, open, and reclose by rotating the handle.

Protection degree: IP50

- Reliable insulation;
- With isolation funtion indication;
- O (open), I (closed) and free trip 3 position indications;
- When the switch cabinet door is opened, the setting value of the circuit breaker release can be set;
- When the switch cabinet door is opened, it can prevent the circuit breaker from closing;
- The circuit breaker can be locked in the OFF position using 1 to 3 padlocks with a diameter of 5 to 8mm. This prevents the circuit breaker from closing and ensures the switch cabinet cannot be opened.
- (Padlock user prepared) can prevent the switch cabinet door from opening at this time;
- The rotary handle features an integrated door-interlock function that prevents the cabinet door from opening when the switch is in the ON position. In emergency situations, the cabinet door can be opened using the emergency unlocking device located on the handle.

9.8.2 Model description

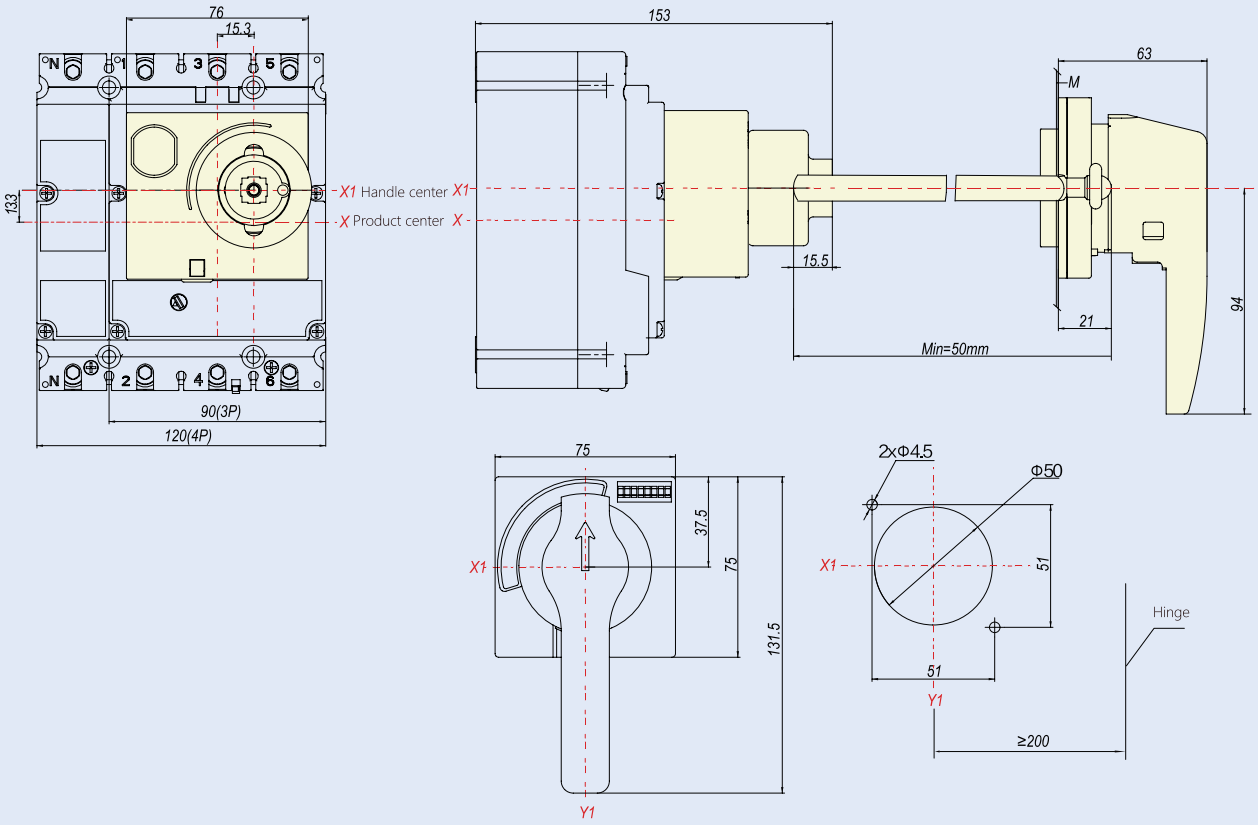
DRH 21- M8 T

- T: Circuit breaker type: T: Thermal magnetic circuit breaker, M: Magnetic circuit breaker, SD: Switch disconnector; E: Electronic circuit breaker
- M8: Series code:NM8N series
- 21: Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame;
- DRH: Extended rotary handle code

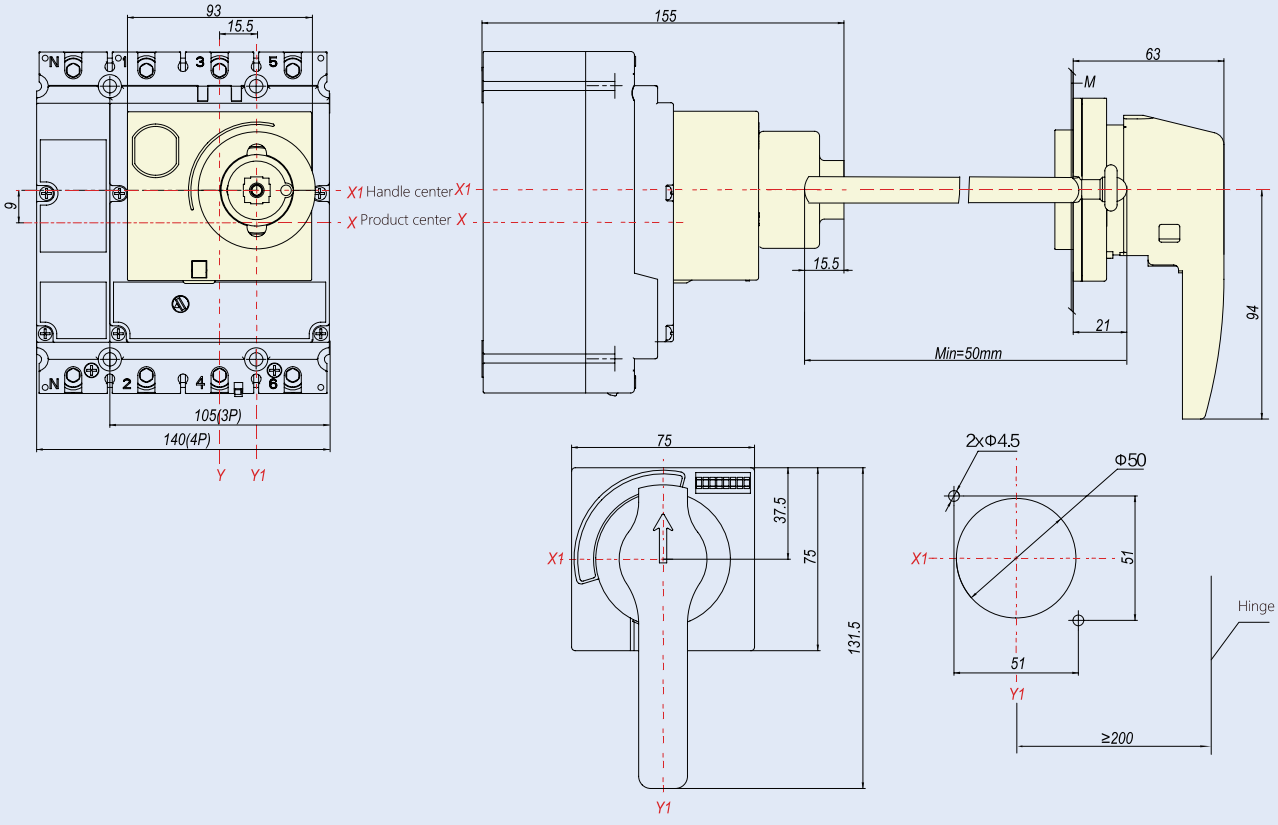
Note: default length of shaft is 500mm

9.8.3 Installation dimension drawing

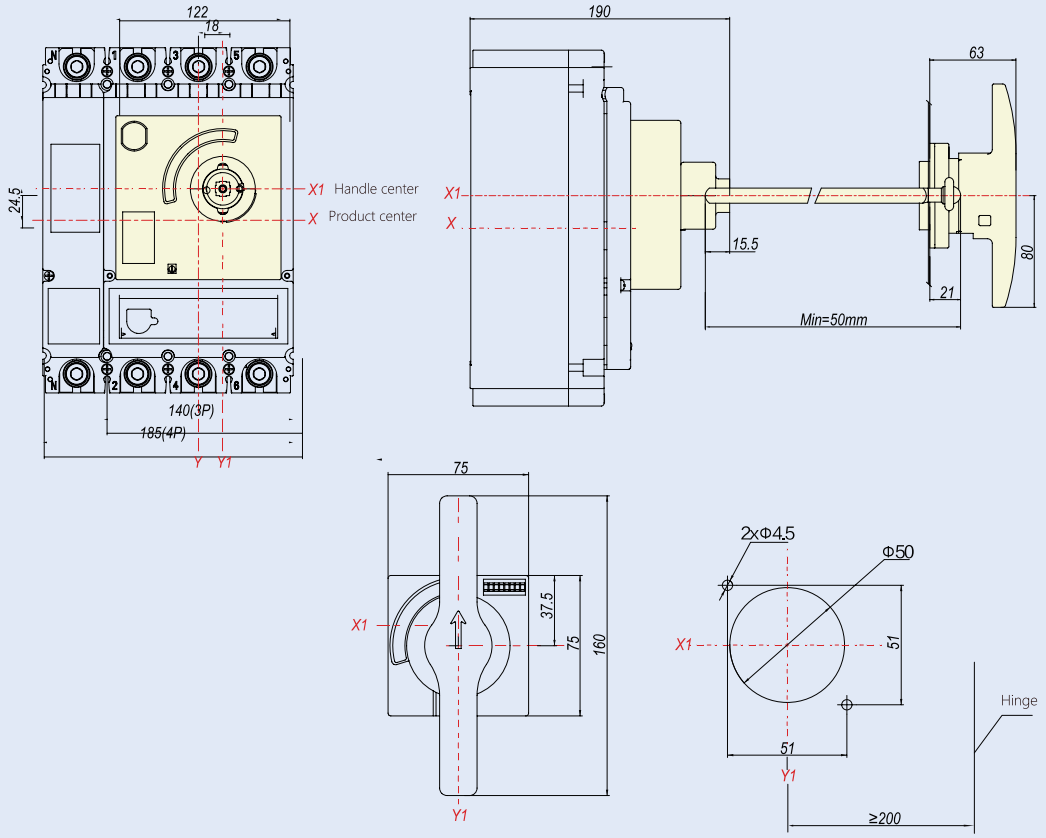
Overall and mounting dimension of ERH21-M8



Overall and mounting dimension of ERH22-M8



Overall and mounting dimension of ERH23-M8



9.9 LHD Extended handle

9.9.1 Function

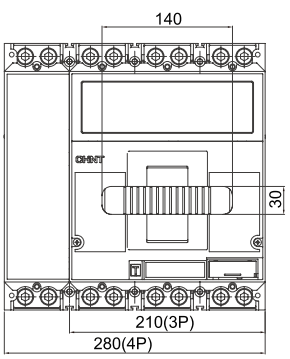
With a unique design, the circuit breaker can be closed, opened and reclosed by rotating the handle. It is only applicable to 1600A.

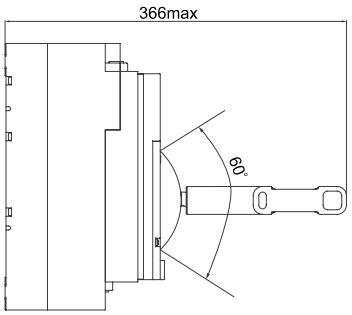
9.9.2 Model description

LHD 25- M8

- M8 — Series code:NM8N series
- 25 — Frame size code: 25 for 1600 frame
- LHD — Extended handle code

9.9.3 Overall dimension





9.10 KLK Locking system

9.10.1 Function

The locking system secures the circuit breaker in the open position.

- It can accommodate 1 to 3 padlocks with a diameter ranging from 5 to 8 mm.
- (Padlock user prepared)

9.10.2 Model description

KLK 21- M8

- Series code:NM8N series
- Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame;
- Extended handle code

9.11 MIT Mechanical interlock

9.11.1 Function

When used with two circuit breakers of the same housing dimensions, if one circuit breaker is closed, the interlocking mechanism prevents the other circuit breaker from closing and keeps it in the open state.

9.11.2 Model description

MIT 21- M8 3P

- Poles: 3P;4P (It is only applicable to 25、250、400、630); 800 No code for shell frame
- Series code:NM8N series
- Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame; 24 for 800 frame
- Mechanical interlock code

9.12 TCV Short terminal cover

9.12.1 Function

Prevents contact with the main circuit and can also be used to prevent short circuit between phases.

Protection degree: IP40

For voltages ≥ 500V, terminal covers must be fitted

9.12.2 Model description

TCV 21- M8 3P

- Poles: 3P;4P
- Series code:NM8N series
- Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame; 24 for 800 frame
- Short terminal cover code

9.13 TCE Long terminal cover

9.13.1 Function

Prevents contact with the main circuit and can also be used to prevent short circuit between phases. There are knock-out holes in front of the terminal cover to accommodate various lug cables and front wiring.

Protection degree: IP40

For voltages ≥ 500V, terminal covers must be fitted

9.13.2 Model description

TCE 21- M8 3P

- 3P: Number of poles: 3P;4P
- M8: Series code:NM8N series
- 21: Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame; 24 for 800 frame
- TCE: Long terminal cover code

9.14 FCP Front connection plate

9.14.1 Function

Install this accessory to provide the circuit breaker with flexible wiring capabilities. It increases pole spacing at the inlet and outlet ends, enhancing electrical separation between adjacent poles and improving line safety.

9.14.2 Model description

FCP 25- M8 3P(1600[1)])

- 3P(1600[1)]): Number of poles: 1P/2P(only for 125A and 250 frames); 3P; 4P
- M8: Series code:NM8N series
- 25: Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame; 25 for 1600 frame
- FCP: Front connection plate code

Note[1)]: Only applicable to 1600 frame, there are three specifications of 1000, 1250, 1600.

9.15 RCP Rear connection plate

9.15.1 Function

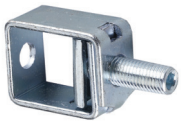
Install this accessory to provide the circuit breaker with flexible wiring capabilities. It enables wiring from behind the board .

9.15.2 Model description

RCP 25- M8 2P

- 2P: Number of poles: 1P/2P(only for 125A and 250 frames); 3P; 4P
- M8: Series code:NM8N series
- 25: Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame; 24 for 800 frame
- RCP: Rear connection plate code

9.16 CCT Cage clamp terminal



CCT21/22-M8

CCT23-M8

9.16.1 Function

Install this accessory to provide the circuit breaker with flexible wiring capabilities. It enables direct connection to bare cables.

9.16.2 Model description

CCT 21- M8

- Series code:NM8N series
- Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame
- Cage clamp terminal code

9.16.3 Wiring capacity

Serial No.	Wiring capacity	Terque
CCT21-M8	(2.5~75)mm^2	8N·m
CCT22-M8	(10~120)mm^2	10N·m
CCT23-M8	(120~240)mm^2	35N·m

9.17 MC Cable connector

9.17.1 Function

This connector enables direct connection of bare wires and facilitate the connection of multiple wires to the circuit breaker.

9.17.2 Model description

MC 25- M8(3) (1250[1)])

- Current specifications
- Number of external holes: (1) 1 hole; (2) 2 holes; (3) 3 holes; (4) 4 holes; (6) 6 holes
- Series code:NM8N series
- Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame; 24 for 800 frame; 25 for 1600 frame;
- Cable connector code

Note[1)]: Only available for 1600AF size MCCB and for ratings from 800A to 1250A.

9.17.3 Wiring capacity

Serial No.	Wiring capacity	Torgue	Note
MC21-M8 (1)	(16~95)mm^2	10N·m	1 hole
MC22-M8 (1)	(35~240)mm^2	30N·m	1 hole
MC22-M8 (2)	2×(35~120)mm^2	30N·m	2 holes
MC22-M8 (6)	6×(10~35)mm^2	10N·m	6 holes
MC23-M8 (2)	2×(120~240)mm^2	35N·m	2 holes
MC23-M8 (4)	4×95mm^2	15N·m	4 holes
MC24-M8 (2)	2×240mm^2	35N·m	2 holes
MC25-M8(800) (3)	3×(95~300)mm^2	35N·m	3 holes
MC25-M8(1000/1250) (4)	4×(95~240)mm^2	35N·m	4 holes

9.18 PIA Plug-in base

9.18.1 Function

This system allows for quick replacement of the circuit breaker without touching the connections at the incoming and outgoing of the base.

- The plug-in base can be pre-installed, making it convenient for future additions of circuit breakers.
- When mounted through a panel, the device isolates the power circuits, acting as a barrier for the connections of the plug-in base.

9.18.2 Model description

PIA 21F- M8 3P

- Number of holes: 3P; 4P
- Series code:NM8N series
- Code of wiring method: F for front connection; B for rear connection
- Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame;
- Plug-in base code

9.19 PISD plug-in safety device

9.19.1 Function

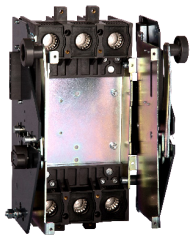
This device is used together with the plug-in base to ensure that the circuit breaker trips automatically if it is pulled out while closed.

9.19.2 Model description

PISD 21-M8 T

- T: Circuit breaker type: T thermal magnetic circuit breaker; E electronic circuit breaker
- M8: Series code:NM8N series
- 21: Frame size code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame;
- PISD: Plug-in safety device code

9.20 DOB Withdrawable base



9.20.1 Function

- This system allows for quick replacement of the circuit breaker without touching the connections at the incoming and outgoing of the base.
- The withdrawable base can be pre-installed, making it convenient for future additions of circuit breakers.
- The optional plug-in safety device can be used together to ensure that the circuit breaker trips automatically if it is pulled out while closed.

9.20.2 Model description

DOB 23F- M8 3P(400A)[1)]

- 3P: Number of poles: 3P; 4P
- M8: Series code:NM8N series
- F: Code of wiring method: F for front connection; B for rear connection
- 23: Frame size code: 23 for 400/630 frame; 24 for 800 frame
- DOB: Draw-out base code

Note[1)]: DOB23 is suitable for 400/630 housings. There are two specifications of 400 and 630.

9.21 DRA DIN-rail adapter

9.21.1 Function

This accessory enables the circuit breaker to be mounted on a 35mm DIN rail.

9.21.2 Model description

DRA 21-M8 3P

- 3P: Number of poles: 3P; 4P
- M8: Series code:NM8N series
- 21: Frame size code: 21 for 125 frame; 22 for 250 frame;
- DRA: DIN-rail adapter code

9.22 COMA Communication module

9.22.1 Function

The COMA communication module is an interface that facilitates communication between the MCCB with electronic trip unit and the bus system, performing both communication and relay control output. Utilizing the Modbus-RTU communication protocol, this module easily connects with a fieldbus master device to achieve up to four remote functions.

The technical parameters are as follows:

- Rated voltage: AC230V or DC24V (error range ± 15%)
- Communication type: RS485 (Modbus-RTU protocol)
- Contact capacity: AC250V / 3A; DC30V / 3A
- Transmission media: shielded twisted pair
- Transmission distance: 1.2km (using category A shielded twisted pair)
- Working status indication: LED indication
- Number of stations: 1 station

9.22.2 Model description

COMA 22- M8 DC24V 0.5m

- Cable length
- Rated voltage: AC230V, DC24V
- Series code:NM8N series
- Frame code: 22 is a universal accessory for electronic molded case circuit breakers
- Communication module code

9.22.3 Communication solution

Solutions	Achievable function	Required products and accessories	Note
Solution 1	Remote measure	NM8N basic or standard electronic molded case circuit breaker; COMA22-M8 communication module.	1. Read phase current
Solution 2	Remote measure Remote signal	NM8N basic or standard electronic moulded case circuit breaker; COMA22-M8 communication module; AX auxiliary contact (optional, indicating opening and closing status); AL alarm contact (optional, indicating trip status).	1. Read phase current 2. Indicate circuit breaker position information (open, closed, trip status)
Solution 3	Remote measure Remote signal Remote control	NM8N basic or standard electronic moulded case circuit breaker; COMA22-M8 communication module; AX auxiliary contact (optional, indicating opening and closing status); AL alarm contact (optional, indicating trip status); MOD electric operation mechanism.	1. Read phase current 2. Indicate circuit breaker position information (open, closed, trip status) 3. Control circuit breaker opening and closing
Solution 4	Remote measure Remote signal Remote control Remote adjustment	NM8N standard electronic molded case circuit breaker; COMA22-M8 communication module; AX auxiliary contact (optional, indicating opening and closing status); AL alarm contact (optional, indicating trip status); MOD electric operation mechanism.	1. Read phase current 2. Indicate circuit breaker position information (open, closed, trip status) 3. Control circuit breaker opening and closing 4. Adjust the internal parameter settings of the controller (only for standard specifications. For details, please refer to the communication protocol).

9.23 PSU battery box

9.23.1 Function

Provide DC 9V power for the standard (liquid crystal) controller for users to view, set and modify controller parameters, when current under 0.4In. The batteries inside box are changeble.

Output voltage: DC 9V

Continuous power supply time: 7 hours

9.23.2 Model description

PSU 22-M8

- Series code:NM8N series
- Frame size code: 22 is a universal accessory for standard (liquid crystal) electronic molded case circuit breakers
- Battery box code

9.24 Phase barrier

9.24.1 Function

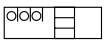
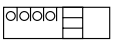
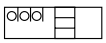
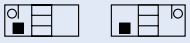
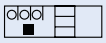
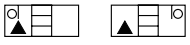
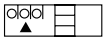
Guarantees phase-to-phase insulation safety and prevents phase-to-phase short circuit.

9.24.2 Model description

PHS 21-M8

- Series code:NM8N series
- Shell code: 21 for 125 frame; 22 for 250 frame; 23 for 400/630 frame; 24 for 800 frame; 25 for 1600 frame
- Phase barrier code, standard accessory

9.25 Installation diagram of internal accessories

Accessory name	Mounting and wiring mode		Left ON Right Handle OFF		
	NM8N-125, 250 NM8NL-125, 250	NM8N-400, 630 NM8NL-400, 630	NM8N-800	NM8N-1600	NM8N-1600 MOD
	3P, 4P	3P, 4P	3P, 4P	3P, 4P	3P, 4P
No accessory					
Alarm contact					
Auxiliary contact					
Shunt release					
Under-voltage release					
Shunt release Auxiliary contact					
Auxiliary contact Under-voltage telease					
Shunt release Alarm contact					
Auxiliary contact Alarm contact					
Under-voltage release Alarm contact					
Shunt release Auxiliary contact, alarm					
Auxiliary contact alarm contact Under-voltage release					

■-Shunt release ▲-Under-voltage release ○-Auxiliary contact ●-Alarm contact

Note: a. NM8N-125, 250, 400, 630, 800 cannot be eqipped with undervoltage release and shunt release at the same time;

b. NM8N-125, 250 3P/4P can be equipped with a maximum of 2 sets of auxiliary contacts; 1P has no internal accessories; 2P can be equipped with a maximum of one auxiliary / alarm contact at the same time;

c. NM8N-400, 630 can install up to 3 sets of auxiliary contacts;

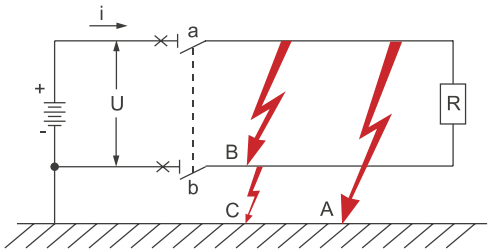
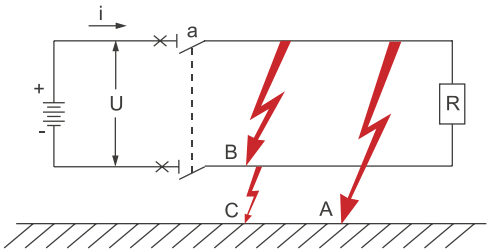
d. NM8N-800 can be eqipped with up to 4 auxiliary contacts;

e. NM8N-1600 MOD can be equipped with a maximum of 3 sets of auxiliary contacts, and can simultaneously install undervoltage release and shunt release;

f. NM8N series can only be equipped with one alarm contact.

10. Technical Supplement

10.1 DC application wiring method

<table>
<tr><th>Solutions</th><th>Unipolar grounding system</th><th>Ungrounded system</th></tr>
<tr><td>Circuit diagram</td><td> 
</td><td> 
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<tr><td>Impact of falt</td><td><table>
<tr><td>Fault A</td><td>maximum short-circuit current I_{sc}</td></tr>
<tr><td>Fault B</td><td>maximum short-circuit current I_{sc}</td></tr>
<tr><td>Fault C</td><td>has no effect</td></tr>
</table></td><td><table>
<tr><td>Fault A</td><td>has no effect</td></tr>
<tr><td>Fault B</td><td>maximum short-circuit current I_{sc}</td></tr>
<tr><td>Fault C</td><td>has no effect</td></tr>
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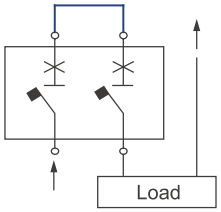
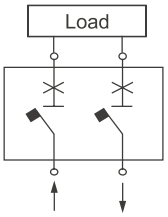
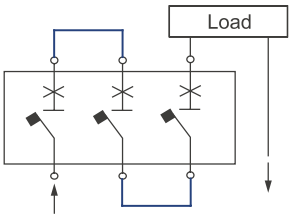
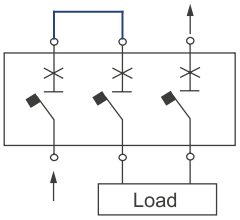
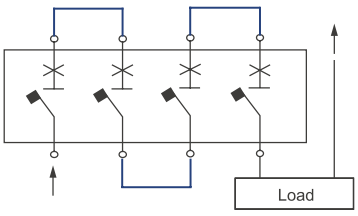
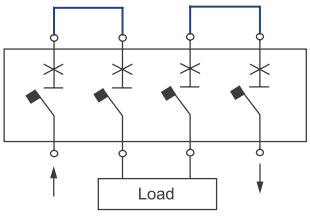
<tr><td>≤DC500V</td><td> 

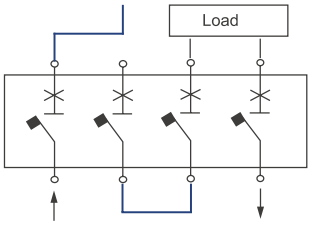
Note:
1. The upper and lower lines can be used, here the following lines are taken as an example.</td><td> 

Note:
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.</td></tr>
<tr><td>DC500~750V</td><td> 

Note:
1. The upper and lower lines can be used, here the following lines are taken as an example.</td><td> 

Note:
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.</td></tr>
<tr><td>DC750~1000V</td><td> 

Note:
1. The upper and lower lines can be used, here the following lines are taken as an example.</td><td> 


</td></tr>
</table>

10.2 NM8N power loss table

Release type	Model	Rated current (A)	Fixed circuit breaker resistance loss per pole mΩ	Power loss per pole (W)
Thermal magnetic	NM8N-125	16	8.8	2.3
		20	8.8	3.5
		25	5.2	3.3
		32	4.5	4.6
		40	2.6	4.2
		50	1.8	4.5
		63	1.7	6.7
		80	1.3	8.3
		100	0.88	8.8
		125	0.8	12.5
	NM8N-250	125	0.7	10.9
		160	0.55	14.1
		180	0.55	17.8
		200	0.55	22.0
		225	0.4	20.3
		250	0.4	25.0
	NM8N-400	250	0.35	21.9
		315	0.25	24.8
		350	0.25	30.6
		400	0.15	24.0
	NM8N-630	400	0.15	24.0
		500	0.12	30.0
	NM8N-800	500	0.08	20.0
		630	0.08	31.8
		700	0.08	39.2
		800	0.08	51.2
	NM8N-1600	800	0.08	51.2
		1000	0.08	80.0
		1250	0.04	62.5
		1600	0.04	102.4
Electronic	NM8N-250	32	0.8	0.8
		63	0.4	1.6
		100	0.4	4.0
		160	0.4	10.2
		250	0.4	25.0
	NM8N-400	250	0.15	9.4
		400	0.15	24.0
	NM8N-630	400	0.15	24.0
		630	0.12	47.6
	NM8N-800	800	0.08	51.2
	NM8N-1600	800	0.08	51.2
		1000	0.08	80.0
		1250	0.04	62.5
		1600	0.04	102.4
Switch disconnector	NM8NSD-125	63	0.8	3.2
		100	0.8	8.0
		125	0.8	12.5
	NM8NSD-250	125	0.4	6.3
		160	0.4	10.2
		200	0.4	16.0
		250	0.4	25.0
	NM8NSD-400	250	0.15	9.4
		400	0.15	24.0
	NM8NSD-630	630	0.12	47.6
	NM8NSD-800	800	0.08	51.2

10.3 NM8N thermal magnetic circuit breaker rated operational current and temperature compensation coefficient table

Rated current \ Ambient temperature		-40℃	-35℃	-25℃	-15℃	-5℃	0℃	+10℃	+20℃	+30℃	+40℃	+50℃	+60℃	+70℃
NM8N-125	16A	22.5	22	20.5	20	19.5	19	18.5	17.5	17	16	15	14.5	14
	20A	28	27.5	26.5	25.5	24.5	24	23	22	21	20	19.5	18.5	18
	25A	35	34	33	32	30.5	30	28	27	26	25	24	22.5	22
	32A	45	44	42	41	39	38	37	35	33	32	30.5	29	28
	40A	56	55	53	51	49	48	46	44	42	40	37	33.5	29
	50A	70	68.5	66	64	61	60	57.5	55	52.5	50	47.5	45	40
	63A	88	86.5	83	80	77	75	72	69	66	63	58.5	53	46
	80A	112	110	106	102	98	96	92	88	84	80	74.5	67	56
	100A	140	137	132	127	122	120	115	110	105	100	93	84	80
	125A	175	172	165	159	153	150	144	137	131	125	116	105	91
NM8N-250	125A	175	172	165	159	153	150	144	137	131	125	118	106	96
	160A	224	220	212	204	196	192	184	176	168	160	152	136	120
	180A	252	247	238	229	220	216	207	198	189	180	171	157	144
	200A	280	275	265	255	245	240	230	220	210	200	190	175	166
	225A	315	309	300	288	276	270	259	247	236	225	213	196	180
	250A	350	343	332	319	306	300	287	275	262	250	237	218	207
NM8N-400	250A	350	343	332	319	306	300	287	275	262	250	237	225	212
	315A	441	433	418	402	386	378	362	346	331	315	300	286	271
	350A	490	481	465	447	429	420	402	385	367	350	332	295	276
	400A	560	550	530	510	490	480	460	440	420	400	380	360	320
NM8N-630	250A	350	343	332	319	306	300	287	275	262	250	237	225	212
	315A	441	433	418	402	386	378	362	346	331	315	300	286	271
	350A	490	481	465	447	429	420	402	385	367	350	332	295	276
	400A	560	550	530	510	490	480	460	440	420	400	380	360	320
	500A	700	687	662	637	612	600	575	550	525	500	450	406	360
NM8N-800	500A	700	687	662	637	612	600	575	550	525	500	490	460	400
	630A	882	866	836	804	772	756	724	693	661	630	580	530	490
	700A	980	962	927	892	857	840	805	770	735	700	670	645	575
	800A	1120	1100	1060	1020	980	960	920	880	840	800	735	670	625
NM8N-1600	800A	1120	1100	1060	1020	980	960	960	920	840	800	760	696	640
	1000A	1400	1375	1325	1275	1225	1200	1200	1150	1050	1000	950	870	800
	1250A	1750	1718	1656	1594	1531	1500	1500	1437	1312	1250	1187	1088	1000
	1600A	2240	2200	2120	2040	1960	1920	1960	1760	1680	1600	1520	1390	1280

Note:[1)] For a muiti-pole DC circuit breaker, if a 2m long standard wire is used in series, the derating factor above applies.

[2)] When the DC jumper is connected in series, it needs to be further reduced based on the above table (except NM8NDC-1600). The specific derating factor should be determined by users according to their different wiring methods. Derating by a factor of 0.8.

10.4 NM8N electronic circuit breaker rated operational current and temperature compensation coefficient table

Ambient temperature / Rated current		-25℃	-15℃	-5℃	0℃	+10℃	+20℃	+30℃	+40℃	+50℃	+60℃	+70℃
NM8N-250	32A	32	32	32	32	32	32	32	32	32	32	32
	63A	63	63	63	63	63	63	63	63	63	63	63
	100A	100	100	100	100	100	100	100	100	100	100	100
	160A	160	160	160	160	160	160	160	160	160	160	160
	250A	250	250	250	250	250	250	250	250	240	225	213
NM8N-400	250A	250	250	250	250	250	250	250	250	250	250	250
	400A	400	400	400	400	400	400	400	400	380	360	340
NM8N-630	250A	250	250	250	250	250	250	250	250	250	250	250
	400A	400	400	400	400	400	400	400	400	380	360	340
	630A	630	630	630	630	630	630	630	630	600	570	540
NM8N-800	630A	630	630	630	630	630	630	630	630	630	630	630
	800A	800	800	800	800	800	800	800	800	760	720	680
NM8N-1600	800A	800	800	800	800	800	800	800	800	800	800	800
	1000A	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	1250A	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250
	1600A	1600	1600	1600	1600	1600	1600	1600	1600	1520	1440	1360

Note: Individual product specifications need to be derated at temperatures of 50°C and above. Refer to the provided table for parameters, and adjust Ir to the corresponding setting.

For example: NM8N-250 EN 250 3P products are used at 70℃ . The product needs to be derated to 213A, and the Ir position is adjusted to 0.8In position. The NM8N-250 EM 250 3P product is used at 70℃ .

10.5 Derating factor table for circuit breaker with residual current protection module

Model		Derating factor
NM8N-125+NM8NL-125	16A~63A	1
	80A~100A	0.9
	125A	0.8
NM8N-250+NM8NL-250	125A~180A	1
	200A~250A	0.9
NM8N-250+NM8NL-250 electronic type	32A、63A、100A、160A	1
	250A	0.95
NM8N-400+NM8NL-400	250A	1
	315A、350A	0.96
	400A	0.93
NM8N-400+NM8NL-400 electronic type	250A	1
	400A	0.95
NM8N-630+NM8NL-630	400A	0.93
	500A	0.87
NM8N-630+NM8NL-630 electronic type	400A~500A	1
	630A	0.90

10.6 Derating factor table for circuit breakers with plug-in or draw-out accessories

Model		Derating factor	
		+Plug-in type	+Economic draw-out type
NM8N-125	16A-100A	1	/
	125A	0.95	/
NM8N-250	125A-180A	1	/
	200A-250A	0.95	/
NM8N-250 electronic type	32A、63A、100A、160A	1	/
	250A	0.95	/
NM8N-400	250A-400A	1	1
NM8N-400 electronic type	250A-400A	1	1
NM8N-630	400A	1	1
	500A	0.95	1
NM8N-630 electronic type	400A-500A	1	1
	630A	0.9	0.9
NM8N-800	500-700A	/	0.95
	800A	/	0.9
NM8N-800 electronic type	630A	/	1
	800A	/	0.9

10.7 NM8N Derating factor table for circuit breakers altitude

Altitude (m)			2000m	3000m	4000m	5000m
Rated operational current In			1×In	0.96×In	0.93×In	0.9×In
Rated operational voltage Ue (V)		AC	690	550	480	420
		DC (4pole string)	1000	900	850	800
Rated insulation voltage Ui (V)			1000	930	870	800
Dielectric properties (V)	AC	Uimp = 8kV	2200	2050	1900	1770
		Uimp = 12kV	2550	2370	2200	2050
	DC	Uimp = 8kV	3110	2892	2705	2488
		Uimp = 12kV	3600	3350	3110	2985
Rated insulation impulse voltage Uimp (kV)		NM8N-125 NM8N-250 NM8N-1600	8	8	8	8
		NM8N-400 NM8N-630 NM8N-800	12	10	8	8

10.8 Cascading (AC220/230/240V)

Upstream	NM8N-125					NM8N-250					NM8N-400					NM8N-630					NM8N-800				
Breaking capacity (kA rms)	C	S	Q	H	R	C	S	Q	H	R	C	S	Q	H	R	C	S	Q	H	R	C	S	Q	H	R
	36	50	70	100	150	36	50	70	100	150	36	50	70	100	150	36	50	70	100	150	36	50	70	100	150
Downstream	**Breaking capacity (kA rms)**																								
NB1N	25	30	40	60	60	25	30	40	60	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
NB1H	30	40	50	65	65	30	40	50	65	65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
NM8N-125C		50	60	80	100		50	60	80	100		50	60	80	100		50	60	80	100		50	60	80	100
NM8N125S			70	90	120			70	90	120			70	90	120			70	90	120			70	90	120
NM8N-125Q				90	140				90	140				90	140				90	140				90	140
NM8N-125H					150			60		150					150					150					150
NM8N-250C							50	70	80	100		50	60	80	100		50	60	80	100		50	60	80	100
NM8N-250S									90	120			70	90	120			70	90	120			70	90	120
NM8N-250Q									90	140				90	140				90	140				90	140
NM8N-250H										150					150					150					150
NM8N-400C												50	60	80	100		50	60	80	100		50	60	80	100
NM8N-400S													70	90	120			70	90	120			70	90	120
NM8N-400Q														90	140				90	140				90	140
NM8N-400H															150					150					150
NM8N-630C																	50	60	80	100		50	60	80	100
NM8N-630S																		70	90	120			70	90	120
NM8N-630Q																			90	140				90	140
NM8N-630H																				150					150
NM8N-800C																						50	60	80	100
NM8N-800S																							70	90	120
NM8N-800Q																								90	140
NM8N-800H																									150

10.9 Cascading (AC380/400/415V)

Upstream	**NM8N-125**					**NM8N-250**					**NM8N-400**					**NM8N-630**					**NM8N-800**				
Breaking capacity (kA rms)	C	S	Q	H	R	C	S	Q	H	R	C	S	Q	H	R	C	S	Q	H	R	C	S	Q	H	R
	36	50	70	100	150	36	50	70	100	150	36	50	70	100	150	36	50	70	100	150	36	50	70	100	150
Downstream	**Breaking capacity (kA rms)**																								
NB1N	20	25	25	25	25	20	25	25	25	25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
NB1H	30	30	30	30	30	30	30	30	30	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
NM8N-125C		50	50	80	100		50	50	80	100		50	50	80	100		50	50	80	100		50	50	80	100
NM8N125S			70	90	120			70	90	120			70	90	120			70	90	120			70	90	120
NM8N-125Q				90	140				90	140				90	140				90	140				90	140
NM8N-125H					150					150					150					150					150
NM8N-250C							50	50	80	100		50	50	80	100		50	50	80	100		50	50	80	100
NM8N-250S								70	90	120			70	90	120			70	90	120			70	90	120
NM8N-250Q									90	140				90	140				90	140				90	140
NM8N-250H										150					150					150					150
NM8N-400C												50	50	80	100		50	50	80	100		50	50	80	100
NM8N-400S													70	90	120			70	90	120			70	90	120
NM8N-400Q														90	140				90	140				90	140
NM8N-400H															150					150					150
NM8N-630C																	50	50	80	100		50	50	80	100
NM8N-630S																		70	90	120			70	90	120
NM8N-630Q																			90	140				90	140
NM8N-630H																				150					150
NM8N-800C																						50	50	80	100
NM8N-800S																							70	90	120
NM8N-800Q																								90	140
NM8N-800H																									150

Note

10.10 Selective protection

Upstream / Downstream	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: [1] No content, meaning no selectivity.

[2] The number "1000" indicates the selectivity limit for partial discrimination, which is the maximum fault current at which selectivity can be maintained. For currents below 1000A, selectivity can be achieved. However, for fault currents above 1000A, both the upstream and downstream circuit breakers may operate simultaneously.

[2] "T" indicates that full selectivity is maintained up to the rated short-circuit breaking capacity of the downstream circuit breaker.

	NM8N-400				NM8N -400 Electronic		NM8N-630					NM8N-630 Electronic			NM8N-800				NM8N -800 Electronic	NM8N-1600				NM8N-1600 Electronic			
	250	315	350	400	250	400	250	315	350	400	500	250	400	630	500	630	700	800	800	800	1000	1250	1600	800	1000	1250	1600
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
		3500	4000	5000		5000		3500	4000	5000	T		5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			4000	5000		5000			4000	5000	T		5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
				5000		5000				5000	T		5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
				5000		5000				5000	T		5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	2800	3500	4000	5000	2800	5000	2800	3500	4000	5000	T	2800	5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			4000	5000		5000			4000	5000	T		5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
				5000		5000				5000	T		5000	T	T	T	T	T	T	T	T	T	T	T	T	T	T
						5000				5000	6000			9500	9500	9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
											6000			9500	9500	9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
														9500		9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
																9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
						5000				5000	6000		5000	9500	9500	9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
																9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
						5000				5000	6000			9500	9500	9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
											6000			9500	9500	9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
														9500		9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
																9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
																9500	9500	9500	9500	9500	9500	12500	16000	9500	9500	12500	16000
						5000				5000	6000		5000	9500	9500	9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
																9500	9500	9500	9500	9500	12000	15000	19000	9500	12000	15000	19000
																					9500	12500	16000		9500	12500	16000

11. Ordering notice

11.1 Quick selection of circuit breaker

11.1.1 Quick selection of power distribution and motor protection circuit breakers[1)]

NM8N - 250 S TM 125 4C OTHER

Circuit breaker	Frame current(A)	Breaking capacity 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[2)] 4C : Four-pole[2)]	
				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	3P : Three-pole 4B : Four-pole[2)] 4C : Four-pole[2)]	
				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[2)] 4C : Four-pole[2)]	MOD DC110[3)] MOD DC220[3)] MOD AC230[3)] MOD AC400[3)]
				1600 : 800, 1000, 1250, 1600			

Note: [1)] For unique requirements beyond the standard technical specifications, please contact our sales or technical department for special order processing. When placing an order, the circuit breaker body and accessories should be listed separately. If factory assembly of the body and accessories should be listed separately. If factory assembly of the body and accessories is required, specify this in the order; otherwise, they will be shipped separately. Note that motor protection is applicable only to 3P/4P configurations.

[2)] 4B: Neutral poles without protection, can be operated with other three poles;
4C: Neutral poles with protection, can be operated with other three poles.

[3)] 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 capacity 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[1] 2P : Two-pole[1] 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: [1] 1P / 2P is limited to 125 and 250 frame products.

11.1.3 Quick selection of switch disconnector

NM8N

SD	-	250	AC	125	2P	OTHER
Switch disconnector		**Frame current(A)**	**Release type**	**Rated current(A)**	**Poles**	**Special requirement**
SD : Switch disconnector		125 250 400 630 800	AC: Alternating current DC: Direct current	125 : Default 250 : Default 400 : Default 800 : Default 1600 : 800, 1000,1250, 1600	2P : Two-pole[1)] 3P : Three-pole 4P : Four-pole	

Note: [1)] 2P is only for 125 and 250 frame products.

Note

11.2 NM8N accessory models selection table

Accessory type	Code	Specification	NM8N-125	NM8N-250	
Auxiliary contact	AX	Universal	AX21-M8		
		Neutral	AX21-M8 N		
Alarm contact	AL	Universal	AL21-M8		
		Neutral	AL21-M8 N		
Shunt release	SHT	AC48V	SHT21-M8 AC48V	SHT22-M8 AC48V	
		AC110V	SHT21-M8 AC110V	SHT22-M8 AC110V	
		AC220-240V	SHT21-M8 AC220-240V	SHT22-M8 AC220-240V	
		AC380-415V	SHT21-M8 AC380-415V	SHT22-M8 AC380-415V	
		DC24V	SHT21-M8 DC24V	SHT22-M8 DC24V	
		DC220V	SHT21-M8 DC220V	SHT22-M8 DC220V	
Under-voltage release	UVT	AC48V	UVT21-M8 AC48V	UVT22-M8 AC48V	
		AC110V	UVT21-M8 AC110V	UVT22-M8 AC110V	
		AC220-240V	UVT21-M8 AC220-240V	UVT22-M8 AC220-240V	
		AC380-415V	UVT21-M8 AC380-415V	UVT22-M8 AC380-415V	
		DC24V	UVT21-M8 DC24V	UVT22-M8 DC24V	
		DC48V	UVT21-M8 DC48V	UVT22-M8 DC48V	
		DC110-120V	UVT21-M8 DC110-120V	UVT22-M8 DC110-120V	
		DC220V	UVT21-M8 DC220V	UVT22-M8 DC220V	
Motor-driven mechanism	MOD	AC110/DC110-120V	MOD21-M8 AC110/DC110-120V	MOD22-M8 AC110/DC110-120V	
		AC220-240/DC220V	MOD21-M8 AC220-240V/DC220V	MOD22-M8 AC220-240V/DC220V	
		AC380-415V	MOD21-M8 AC380-415V	MOD22-M8 AC380-415V	
		DC24V	MOD21-M8 DC24V	MOD22-M8 DC24V	
Economic extended rotart handle	SRH	3P	SRH21-M8 3P	SRH22-M8 3P	
		4P	SRH21-M8 4P	SRH22-M8 4P	
Direct rotary handle	DRH	Thermal magnetic (T)	DRH21-M8 T	DRH22-M8 T	
		Magnetic (M)	DRH21-M8 M	DRH22-M8 M	
		Electronic (E)	/	DRH22-M8 E	
		Switch disconnector (SD)	DRH21-M8 M	DRH22-M8 SD	
Extended rotary handle	ERH	Thermal magnetic (T)	ERH21-M8 T	ERH22-M8 T	
		Magnetic (M)	ERH21-M8 M	ERH22-M8 M	
		Electronic (E)	/	ERH22-M8 E	
		Switch disconnector (SD)	ERH21-M8 M	ERH22-M8 SD	
Extended rotary handle	LHD	3P/4P	/	/	
Locking system	KLK		KLK21-M8	KLK22-M8	
Mechanical interlock	MIT	3P	MIT21-M8 3P	MIT22-M8 3P	
		4P	MIT21-M8 4P	MIT22-M8 4P	
Short terminal cover	TCV	3P	TCV21-M8 3P	TCV22-M8 3P	
		4P	TCV21-M8 4P	TCV22-M8 4P	
Long terminal cover	TCE	3P	TCE21-M8 3P	TCE22-M8 3P	
		4P	TCE21-M8 4P	TCE22-M8 4P	
Front connection plate	FCP	1P	FCP21-M8 1P	FCP22-M8 1P	
		2P	FCP21-M8 2P	FCP22-M8 2P	
		3P	FCP21-M8 3P	FCP22-M8 3P	
		4P	FCP21-M8 4P	FCP22-M8 4P	
Rear connection plate	RCP	1P	RCP21-M8 1P	RCP22-M8 1P	
		2P	RCP21-M8 2P	RCP22-M8 2P	
		3P	RCP21-M8 3P	RCP22-M8 3P	
		4P	RCP21-M8 4P	RCP22-M8 4P	
Cage clamp terminal	CCT	1hole	CCT21-M8	CCT22-M8	
Cable connector	MC	1hole	MC21-M8(1)	MC22-M8(1)	
		2hole	/	MC22-M8(2)	
		3hole	/	/	
		4hole	/	/	
		6hole	/	MC22-M8(6)	
Plug-in base	PIA	3P Front connection	PIA21F-M8 3P	PIA22F-M8 3P	
		4P Front connection	PIA21F-M8 4P	PIA22F-M8 4P	
		3P Rear connection	PIA21B-M8 3P	PIA22B-M8 3P	
		4P Rear connection	PIA21B-M8 4P	PIA22B-M8 4P	
Plug-in safety device	PISD	Thernal magnetic (T)	PISD21-M8 T	PISD22-M8 T	
		Electronic (E)	/	PISD22-M8 E	
Withdrawable base	DOB	3P Front connection	/	/	
		4P Front connection	/	/	
		3P Rear connection	/	/	
		4P Rear connection	/	/	
DIN-rail adapter	DRA				
		3P	DRA21-M8 3P	DRA22-M8 3P	
		4p	DRA21-M8 4P	DRA22-M8 4P	
Communication module	COMA	DC24V	/	COMA22-M8 DC24V 0.5m	
			/	COMA22-M8 DC24V 1.5m	
			/	COMA22-M8 DC24V 3m	
		AC230V	/	COMA22-M8 AC230V 0.5m	
			/	COMA22-M8 AC230V 1.5m	
			/	COMA22-M8 AC230V 3m	
Battery box	PSU		/	PSU22-M8	
Phase barrier	PHS		PHS21-M8	PHS22-M8	

	NM8N-400	NM8N-630	NM8N-800	NM8N-1600
	AX21-M8			
	AX21-M8 N			
	AL21-M8			
	AL21-M8 N			
	SHT22-M8 AC48V		SHT24-M8 AC48V	SHT25-M8 AC48V
	SHT22-M8 AC110V		SHT24-M8 AC110V	SHT25-M8 AC110V
	SHT22-M8 AC220-240V		SHT24-M8 AC220-240V	SHT25-M8 AC220-240V
	SHT22-M8 AC380-415V		SHT24-M8 AC380-415V	SHT25-M8 AC380-415V
	SHT22-M8 DC24V		SHT24-M8 DC24V	SHT25-M8 DC24V
	SHT22-M8 DC220V		SHT24-M8 DC220V	SHT25-M8 DC220V
	UVT22-M8 AC48V		UVT24-M8 AC48V	UVT25-M8 AC48V
	UVT22-M8 AC110V		UVT24-M8 AC110V	UVT25-M8 AC110V
	UVT22-M8 AC220-415V		UVT24-M8 AC220-240V	UVT25-M8 AC220-240V
	UVT22-M8 AC380-415V		UVT24-M8 AC380-415V	UVT25-M8 AC380-415V
	UVT22-M8 DC24V		UVT24-M8 DC24V	UVT25-M8 DC24V
	UVT22-M8 DC48V		UVT24-M8 DC48V	UVT25-M8 DC48V
	UVT22-M8 DC110-120V		UVT24-M8 DC110-120V	UVT25-M8 DC110-120V
	UVT22-M8 DC220V		UVT24-M8 DC220V	UVT25-M8 DC220V
	MOD23-M8 AC110/DC110-120V		MOD24-M8 AC110/DC110-120V	MOD25-M8 AC110/DC110-120V
	MOD23-M8 AC220-240V/DC220V		MOD24-M8 AC220-240V/DC220V	MOD25-M8 AC220-240V/DC220V
	MOD23-M8 AC380-415V		MOD24-M8 AC380-415V	MOD25-M8 AC380-415V
	MOD23-M8 DC24V		MOD24-M8 DC24V	MOD25-M8 DC24V
	SRH23-M8		SRH24-M8	SRH25-M8
	DRH23-M8 T		/	/
	DRH23-M8 M		/	/
	DRH23-M8 E		/	/
	DRH23-M8 SD		/	/
	ERH23-M8 T		/	/
	ERH23-M8 M		/	/
	ERH23-M8 E		/	/
	ERH23-M8 SD		/	/
	/		/	LHD25-M8
	KLK23-M8		/	/
	MIT23-M8 3P		MIT24-M8	/
	MIT23-M8 4P			/
	TCV23-M8 3P		TCV24-M8 3P	/
	TCV23-M8 4P		TCV24-M8 4P	/
	TCE23-M8 3P		TCE24-M8 3P	/
	TCE23-M8 4P		TCE24-M8 4P	/
	/		/	/
	/		/	/
	FCP23-M8 3P		/	FCP25-M8 3P
	FCP23-M8 4P		/	FCP25-M8 4P
	/		/	/
	/		/	/
	RCP23-M8 3P		RCP24-M8 3P	/
	RCP23-M8 4P		RCP24-M8 4P	/
	CCT23-M8		/	/
	/		/	/
	MC23-M8(2)		MC24-M8(2)	/
	/		/	MC25-M8(3)(800)
	MC23-M8(4)		/	MC25-M8(4)(1000/1250)
	/		/	/
	PIA23F-M8 3P		/	/
	PIA23F-M8 4P		/	/
	PIA23B-M8 3P		/	/
	PIA23B-M8 4P		/	/
	PISD23-M8 T		PISD24-M8 T	/
	PISD23-M8 E		PISD24-M8 E	/
	DOB23F-M8 3P(400A)	DOB23F-M8 3P(630A)	DOB24F-M8 3P	/
	DOB23F-M8 4P(400A)	DOB23F-M8 4P(630A)	DOB24F-M8 4P	/
	DOB23B-M8 3P(400A)	DOB23B-M8 3P(630A)	DOB24B-M8 3P	/
	DOB23B-M8 4P(400A)	DOB23B-M8 4P(630A)	DOB24B-M8 4P	/
				/
				/
	/		/	/
	/		/	/
	COMA22-M8 DC24V 0.5m			
	COMA22-M8 DC24V 1.5m			
	COMA22-M8 DC24V 3m			
	COMA22-M8 AC230V 0.5m			
	COMA22-M8 AC230V 1.5m			
	COMA22-M8 AC230V 3m			
	PSU22-M8			
	PHS23-M8		PHS24-M8	PHS25-M8