

9. Accessories characteristics and installation

9.1 AX Auxiliary contact

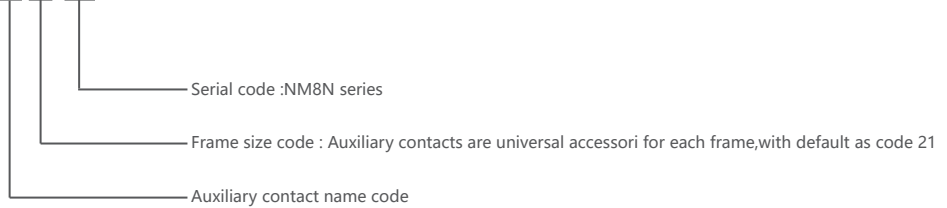
9.1.1 Function

Remotely indicate the circuit breaker's making (on) or breaking / tripping (OFF) status, connected to the auxiliary circuit of the circuit breaker.



9.1.2 Model description

AX 21-M8



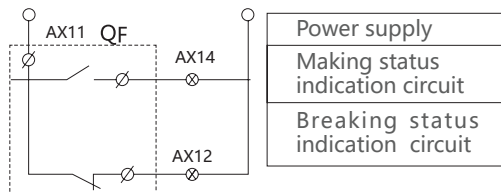
9.1.3 Circuit Breaker status indication

Breaker is at breaking / free trip status	
Breaker is at making status	

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



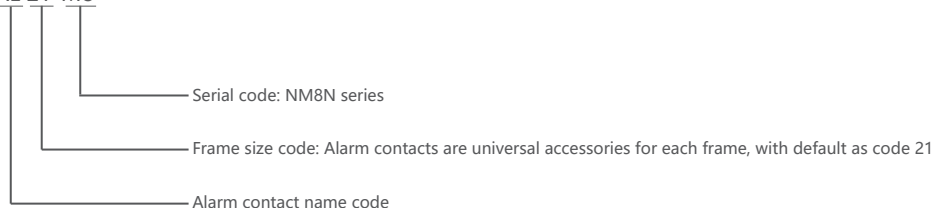
It is mainly used to provide a signal when the load of the circuit breaker is overloaded, short-circuited or undervoltage, or tripped.

The reasons for the failure of the alarm signal are:

- Over-load or short-circuit
- Undervoltage trip
- Manual free trip

9.2.2 Model description

AL 21-M8



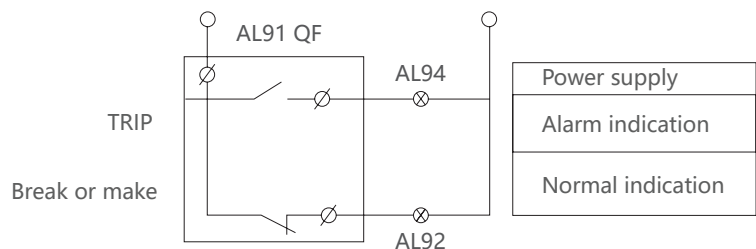
9.2.3 Circuit Breaker status indication

Breaker is at breaking / Making status	
Breaker is at free trip status	

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

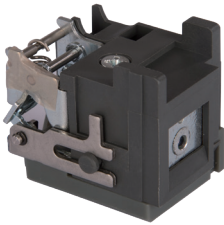
9.2.5 Wiring diagram





9.3 SHT Shunt release

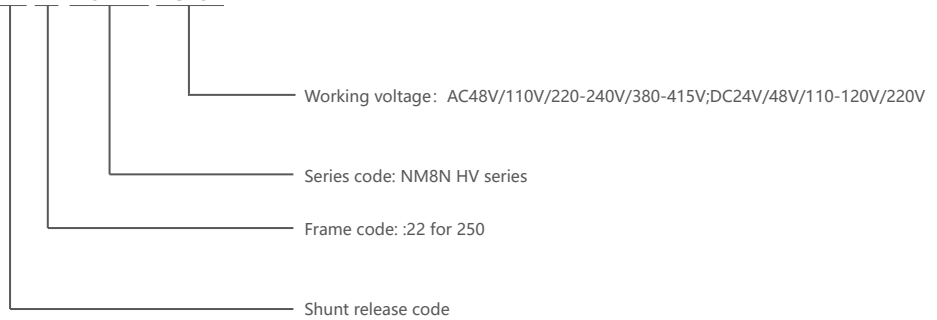
9.3.1 Function



Shunt releases operate according to electrical signals, enabling remote control and automatic control of circuit breakers. When the supply voltage is equal to any voltage between 70% and 110% of the rated control power supply voltage, the shunt release should enable the circuit breaker to operate reliably.

9.3.2 Model description

SHT 22-M8NHV AC48V



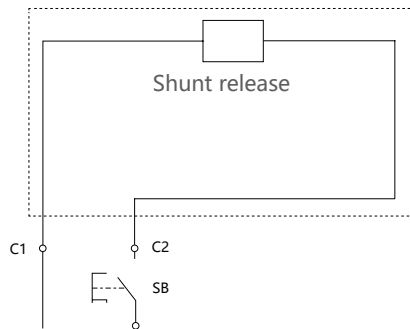
9.3.3 Electrical characteristics

Frame	Power loss (W)							
	AC48V	AC110V	AC220-240V	AC380-415V	DC24V	DC48V	DC110-120V	DC220V
250/400/630A	2.3	2.5	2.2	2.5	2.2	2.5	2.5	2.5

9.3.4 Trip characteristics

Can be powered for a long time. Response time: pulse type > 20ms, <60ms

9.3.5 Wiring diagram



Note: When the rated control power supply voltage DC24V shunt release is used, the maximum length of the copper wire (each of the two wires) must meet the following table:

Conductor cross-sectional area rated control voltage U_s (DC24V)	1.5mm ²	2.5mm ²
	100% U_s	150m
85% U_s	100m	160m

9.4 UVT Under-voltage release

9.4.1 Function

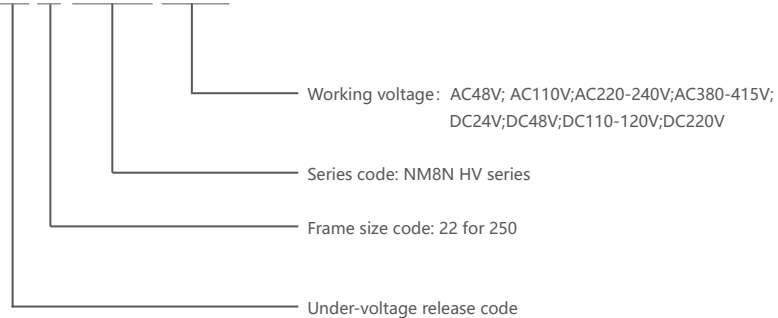


Realize the under-voltage protection function of the circuit breaker, open the circuit breaker when the power supply voltage is too low, and protect the electrical equipment.

- When the supply voltage drops (even slowly) to 70% to 35% of the rated control supply voltage, the undervoltage trips The breaker should open the circuit breaker reliably.
- When the supply voltage is equal to or greater than 85% of the rated control supply voltage of the undervoltage release, the circuit breaker should be guaranteed to close.
- When the supply voltage is less than 35% of the rated control supply voltage of the undervoltage release, the undervoltage release should prevent the circuit breaker.

9.4.2 Model description

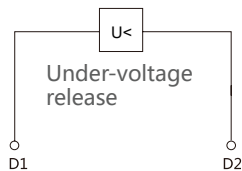
UVT 22-M8NHV AC48V



9.4.3 Electrical characteristics

Frame	Power loss (W)							
	AC48V	AC110V	AC220-240V	AC380-415V	DC24V	DC48V	DC110-120V	DC220V
250/400/630A	1.5	1.5	2.2	3	0.8	1.5	2	2.5

9.4.4 Wiring diagram



9.5 FCP front connection plate

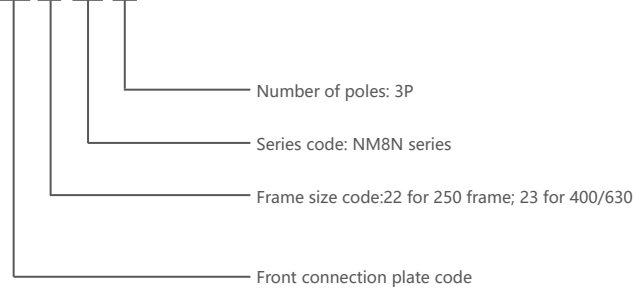
9.5.1 Function

Make the circuit breaker have a flexible wiring mode. By installing this accessory, the pole spacing can be increased to increase the electrical gap between adjacent poles at the inlet and outlet ends of the circuit breaker and enhance the safety between lines.



9.5.2 Model description

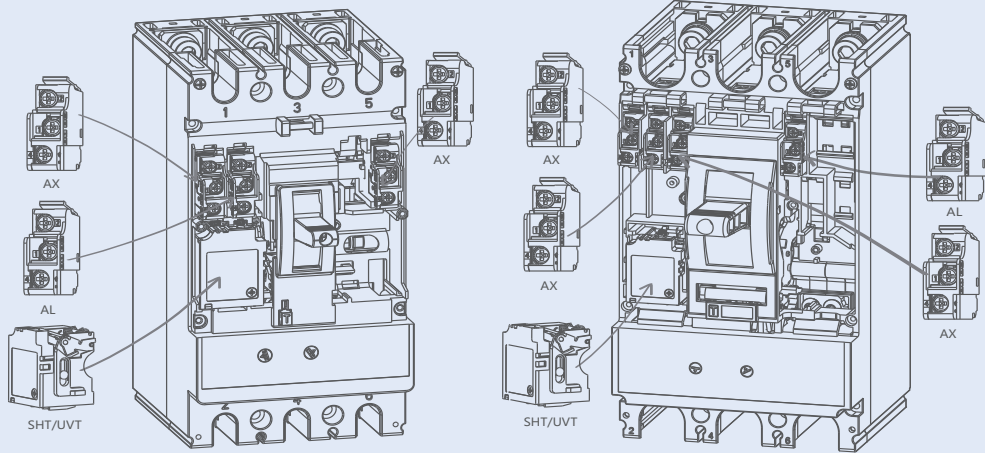
FCP 22-M8 3P



9.5.3 Internal accessories installation diagram

NM8N-250HV

NM8N-400/630HV



AX	Auxiliary Contact
AL	Alarm Contact
SHT	Shunt Release
UVT	Under-voltage Release

AX	ON	AX12 ——— AX11
	OFF	AX12 ——— AX11
AL	OFF & ON	AL92 ——— AL91
	TRIP	AL92 ——— AL91

9.6 CRH Extended rotary handle

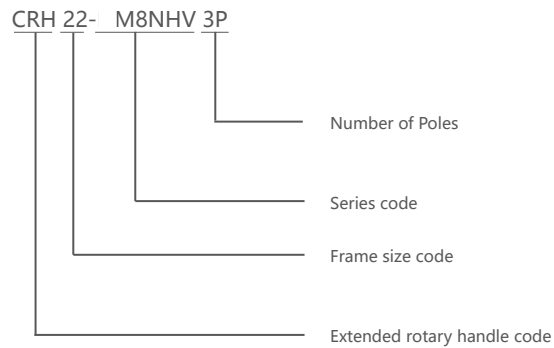
9.6.1 Function



Using a unique design driving structure, by rotating the handle to achieve the circuit breaker closing, switch and re-close operation.

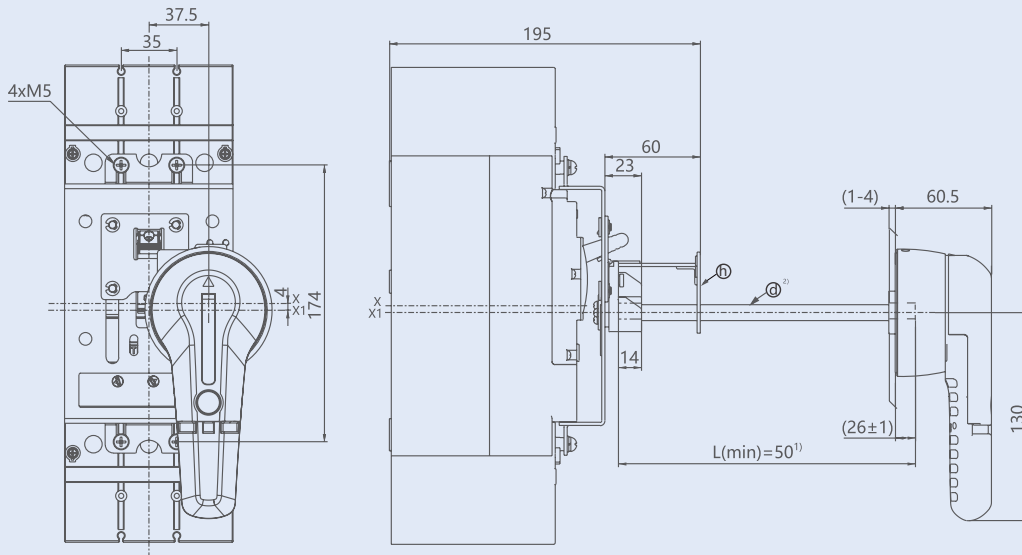
- Three position indication includes O (open), I (closed) and free tripping;
- The circuit breaker can hang 1 to 3 padlocks at OFF position, with a diameter of 5 to 8 mm, thus, in order to prevent the circuit breaker to close and switch gear to open;
- When the circuit breaker is at ON position, cabinet door cannot open under the action of the rotating handle (cabinet door can be opened by the emergency unlocking device on the handle in emergency situation).

9.6.2 Model description



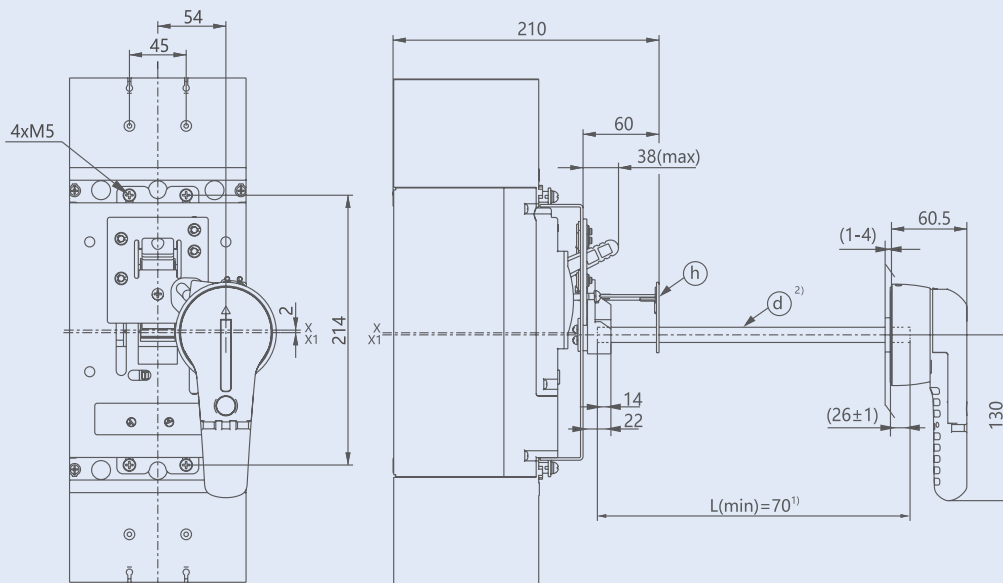
9.6.3 Handle size drawing

NM8N-250HV



Note: 1) When $L \geq 150$, in order to avoid the shaft sagging, h support plate need to be installed; When $50 \leq L \leq 90$, support plate is not needed;
 2) Standard length of rotating shaft $L=320$.

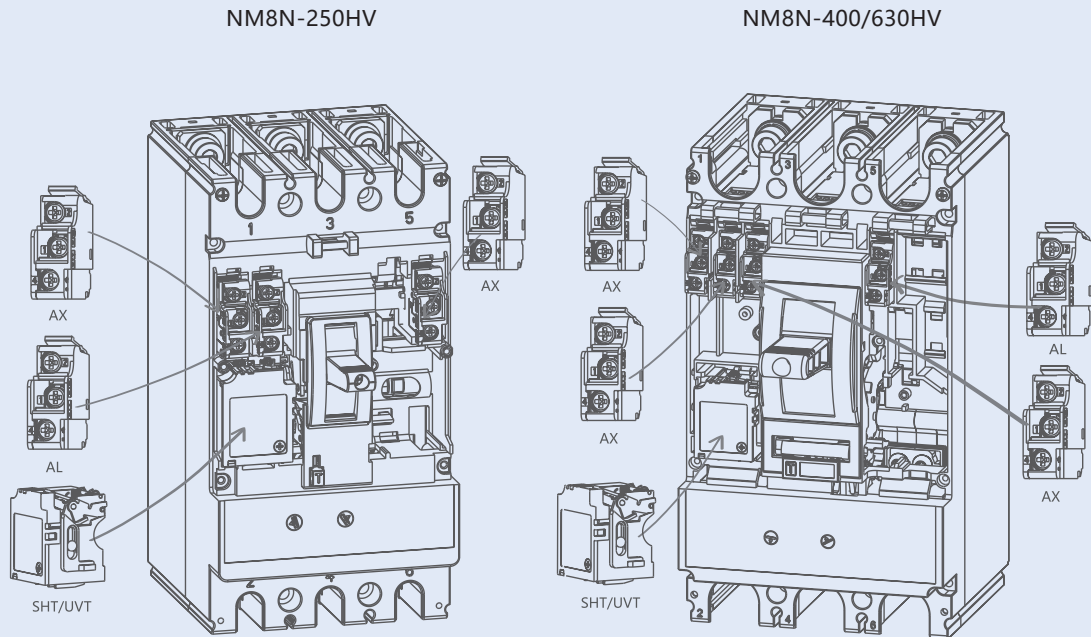
NM8N-400/630HV



Note: 1) When $L \geq 150$, in order to avoid the shaft sagging, h support plate need to be installed; When $70 \leq L \leq 90$, support plate is not needed;
 2) Standard length of rotating shaft $L=260$.



9.6.4 Installation diagram



AX	Auxiliary Contact
AL	Alarm Contact
SHT	Shunt Release
UVT	Under-voltage Release

AX	ON	AX12 ——— AX11 AX14 ———
	OFF	AX12 ——— AX11 AX14 ———
AL	OFF & ON	AL92 ——— AL91 AL94 ———
	TRIP	AL92 ——— AL91 AL94 ———