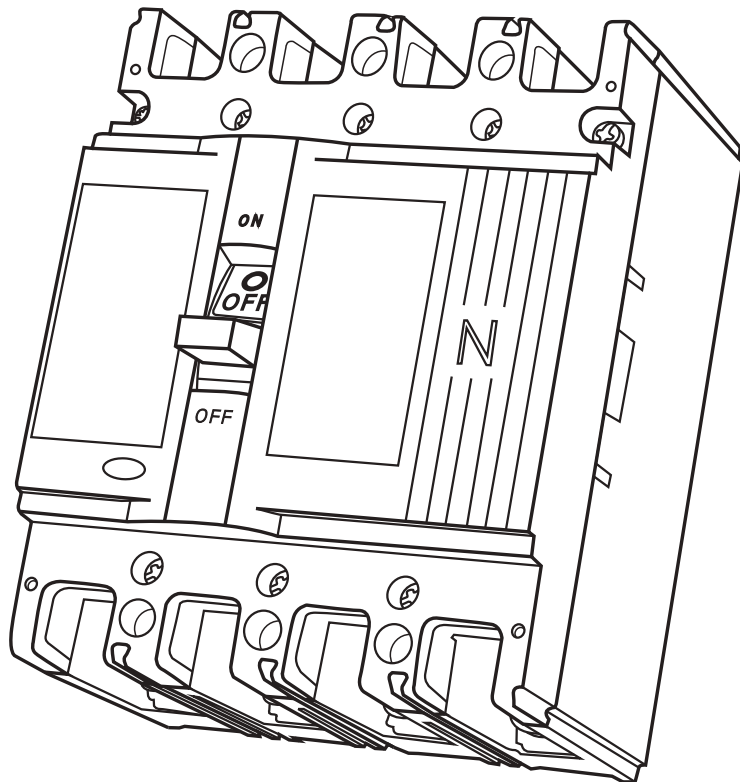




MOD1-5

Moulded Case Circuit Breaker





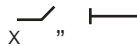
I 、 Range of application

MOD series of moulded case circuit breaker is a new type product developed and manufactured by adopting international advanced technology. It is supplied with rated insulation voltage 800V and used for circuit of AC 50Hz, rated operating voltage AC 400V or below rated operation current up to 800A for infrequent changing over and starting of the motors. Equipped with the protection devices for over-current, short circuit and under voltage, the product is capable of preventing damage of circuits and supplying units the product conforms to IEC60947-2.

The products can be installed vertically.

The products also can be installed horizontally

The products have isolating function, the symbol is: “

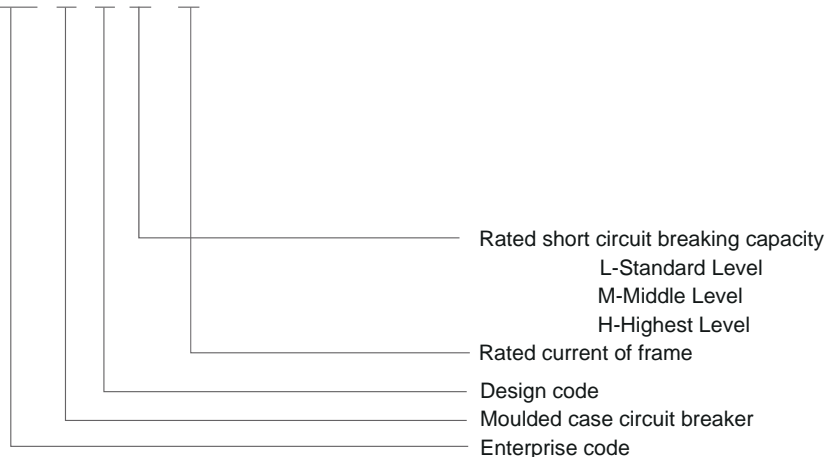


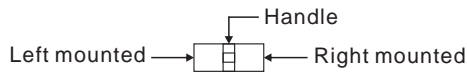
The products is in conformity with the below standard:

- IEC60947-1 general rule
- IEC60947-2 low voltage circuit breaker
- IEC60947-4-1 electromechanical contactor and electromotor starter
- IEC60947-5-1 electromechanical control circuit devices

II 、 Model and explanation

MOD 3 3 FM 250A





- : Alarm contact ○: Under voltage release
- : Auxiliary contact ←: Wiring direction
- : Shunt release

Chart 1 Tripping type and inner accessory code

Accessory Name	Tripping type and inner accessory code		Accessory installation position and wiring direction				
	Electro-magnetic release	Multiple release	MOD1-125	MOD2-250	MOD3-400	MOD4-630	MOD5-800
Alarm contact	208	308	← □ □	← □ □	← □ □	← □ □	← □ □
Shunt release	210	310	□ □ ● →	□ □ ● →	□ □ ● →	□ □ ● →	□ □ ● →
Auxiliary contact	220	320	← ■ □	← ■ □	← ■ □	← ■ □	← ■ □
Under voltage release	230	330	← ○ □	← ○ □	← ○ □	← ○ □	← ○ □
Auxiliary contact, Shunt release	240	340	← ■ □ ● →	← ■ □ ● →	← ■ □ ● →	← ■ □ ● →	← ■ □ ● →
Shunt release, Under voltage release	250	350	← ○ □ ● →	← ○ □ ● →	← ○ □ ● →	← ○ □ ● →	← ○ □ ● →
Two group auxiliary contact	260	360	← ■ □ ■	← ■ □ ■	← ■ □ ■	← ■ □ ■	← ■ □ ■
Auxiliary contact, Under voltage release	270	370	← ○ □ ■	← ○ □ ■	← ○ □ ■	← ○ □ ■	← ○ □ ■
Shunt release, Alarm contact	218	318	← □ □ ●	← □ □ ●	← □ □ ●	← □ □ ●	← □ □ ●
Auxiliary contact, Alarm contact	228	328	← ■ □ □	← ■ □ □	← ■ □ □	← ■ □ □	← ■ □ □
Under voltage release, Alarm contact	238	338	← ○ □ □	← ○ □ □	← ○ □ □	← ○ □ □	← ○ □ □
Shunt release, Auxiliary contact, Alarm contact	248	348	← ■ □ □ ●	← ■ □ □ ●	← ■ □ □ ●	← ■ □ □ ●	← ■ □ □ ●
Two group auxiliary contact, Alarm contact	268	368	← ■ □ ■ □	← ■ □ ■ □	← ■ □ ■ □	← ■ □ ■ □	← ■ □ ■ □
Auxiliary contact, Under voltage release, Alarm contact	278	378	← ○ □ ■ □	← ○ □ ■ □	← ○ □ ■ □	← ○ □ ■ □	← ○ □ ■ □

Remark: 1. 000: no thermal release or magnetic release; 200: only have electro-magnetic release; 300: have thermal-magnetic release

III、 Technical parameter

Model	63		MOD1-125			MOD2-250			MOD3-400			MOD4-630			MOD5-800		
Frame size current Inm [A]	63		100			250			400			630			800		
Rated current In [A]	10、16、20、25、32、40、50、63		(10)、16、20、25、32、40、50、63、80、100			100、125、140、160、180、200、225			225、250、315、350、400			400、500、630			630、700、800		
Poles	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	
Nominal insulation voltage Ui [V]	AC800		AC800														
Rated operational voltage Ue [V]	AC400		AC400、AC690														
Rated impulse withstand voltage Uimp [V]	8000		8000														
Flashover distance [mm]			50						100								
Breaking capacity level	L	M	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H
Rated Ultimate Short-circuit breaking capacity Icu [kA]	AC690V			20			20			20			20			30	
	AC400V	36	50	36	50	85	36	50	85	50	65	85	50	65	85	65	65
Rate service short-circuit breaking capacity Ics [kA]	AC690V			10			10			15			15			20	
	AC400V	36	36	36	36	50	36	36	50	36	36	50	36	50	50	50	75
On-load operation performance [T]	AC400V	8000			8000			7500			7500			7500			
No-load operation performance [T]	without maintenance	20000			20000			10000			10000			10000			
	with maintenance	40000			40000			20000			20000			20000			

IV、Protective characteristic

Distribution using

Rated current(A)	Thermal release(Ambient temperature +40℃)		Electro-magnetic release tripping Current (A)
	1.05In(Cold state)non-tripping time(h)	1.3In(Thermal state)tripping time(h)	
10≤In≤63	Not trip in 1 hours	≤1	10In±20%
63<In≤100	Not trip in 2 hours	≤2	
100<In≤800	Not trip in 3 hours	≤2	5In±20%, 10In±20%

Electromotor protection

Circuit breaker model	Thermal release(Ambient temperature +40℃)				Trip level	Electro-magnetic release tripping current (A)
	1.0In(Cold state) non-tripping time(h)	1.2In(Thermal state) tripping time(h)	1.5In(Thermal state) tripping time(h)	1.5In(Cold state) non-tripping time(h)		
	Not trip in 2 hours	≤2	≤2min	0.5s<TP≤5s	5	12In±20%
MOD1-125L、M、H			≤4min	4s<TP≤10s	10	
MOD2-250L、M、H MOD3-400L、M、H MOD4-630L、M、H MOD5-800L、M、H			≤8min	6s<TP≤20s	20	

Remark:Frame size MOD4-800 current 700A,800A don't supply electromotor protection

V、Circuit breaker category

According to poles: 3 poles, 4 poles

According to usage: Distribution using, Electromotor protection

According to operation mode:

A.Operation by handle

B.Operation by electric(with letter P)

C.Operation by rotary handle (with letterZ)

VI、The requirement of circuit breaking using, installation and location

Regular service condition:

A.-5℃~40℃,and the average cost not exceed +35℃ in 24h

B. The altitude of the installation location not higher than 2000m

C. The air relative humidity not exceed 50%when the ambient air temperature is 40℃; the relative humidity can be higher if under the lower temperature(such as 90% when 20℃), and considering the frost appeared when the temperature changed.

Regular installation condition:

A.Installation category: circuit breaker main circuit class three, control circuit and auxiliary circuit class two

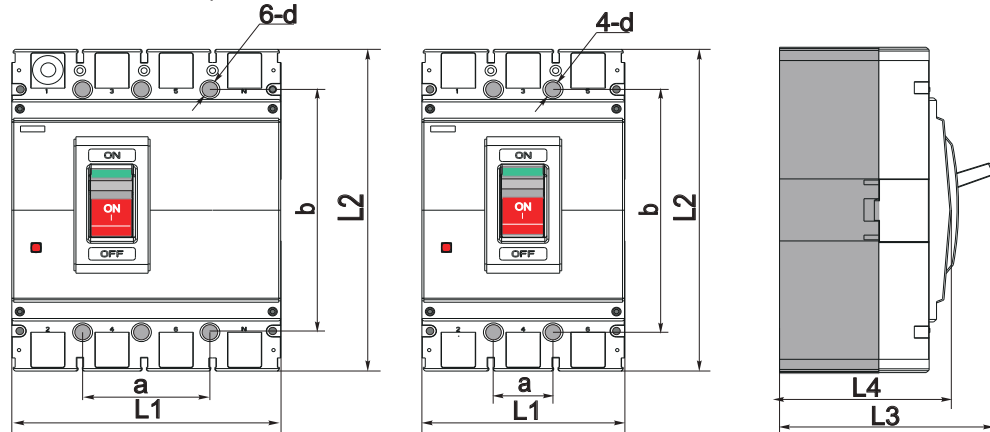
B.Installation condition: can be installed both vertically and horizontally.

C. Pollution Class: class 3

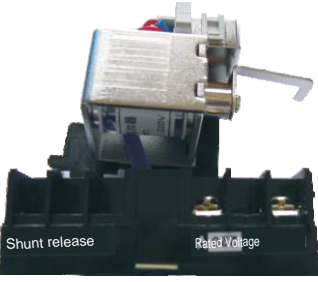
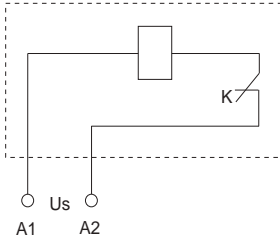
D.External field: the external field can not be 5 times higher than geomagnetic field at any direction on the installation site


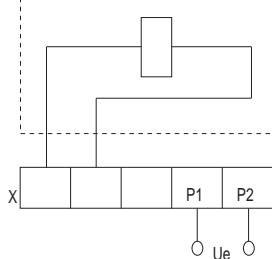
VII、Shape and installation size

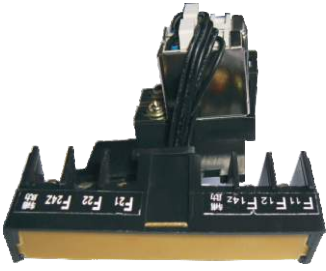
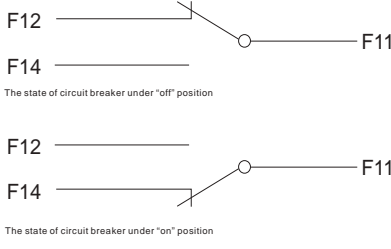
Circuit breaker panel front wire connection shape and installation size

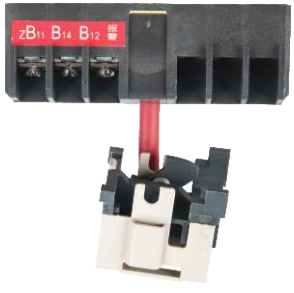
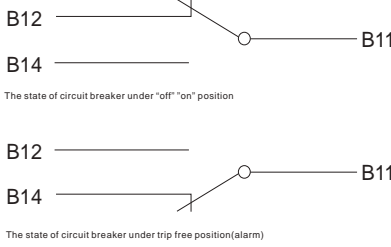


Model	Poles	Shape size[mm]				Installation size[mm]		
		L1	L2	L3	L4	a	b	d
MOD1-125L	3	92	150	89	74	30	129	Φ4.5
	4	122	150	89	74	60	129	Φ4.5
MOD1-125M	3	92	150	107	92	30	129	Φ4.5
	4	122	150	107	92	60	129	Φ4.5
MOD1-125H	3	92	150	107	92	30	129	Φ4.5
	4	122	150	107	92	60	129	Φ4.5
MOD2-250L	3	107	165	114	94	35	126	Φ4.5
	4	142	165	114	94	70	126	Φ4.5
MOD2-250M	3	107	165	131	111	35	126	Φ4.5
	4	142	165	131	111	70	126	Φ4.5
MOD2-250H	3	107	165	131	111	35	126	Φ4.5
	4	142	165	131	111	70	126	Φ4.5
MOD3-400L	3	150	257	151.5	115.5	44	194	Φ7
	4	198	257	151.5	115.5	88	194	Φ7
MOD3-400M	3	150	257	151.5	115.5	44	194	Φ7
	4	198	257	151.5	115.5	88	194	Φ7
MOD3-400H	3	150	257	151.5	115.5	44	194	Φ7
	4	198	257	151.5	115.5	88	194	Φ7
MOD4-630L	3	182	270	155	120	58	200	Φ7
	4	240	270	155	120	116	200	Φ7
MOD4-630M	3	182	270	155	120	58	200	Φ7
	4	240	270	155	120	116	200	Φ7
MOD4-630H	3	182	270	155	120	58	200	Φ7
	4	240	270	155	120	116	200	Φ7
MOD5-800M	3	210	280	155	115.5	70	243	Φ7
	4	280	280	155	115.5	140	243	Φ7
MOD5-800H	3	210	280	155	115.5	70	243	Φ7
	4	280	280	155	115.5	140	243	Φ7

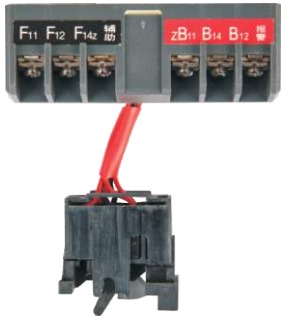
 <p>Shunt release</p>	rated supply voltage U_s [V]	AC230V、AC400V; DC24V、DC110V、DC220V
	Operation voltage [v]	(0.7~1.1) U_s
	Wiring diagram	 <p>Remark: K-the microswitch in series with coil in the shunt release is the normally closed contact,when circuit breaker opening,the contact disconnect automatically,switch on when closing;in the dotted box is the circuit breaker inner wiring diagram.</p>

 <p>Under voltage release</p>	rated supply voltage U_s [V]	AC230V、AC400V
	Operation voltage [v]	When the voltage is 35%-70% of rated operational voltage,make the circuit breaker tripped stably; When 85%-110%,guarantee the circuit breaker switched on,when lower than 35% should prevent switch on.
	Wiring diagram	 <p>Remark: X-terminal blocks in the dotted box is the circuit breaker inner wiring diagram.</p>

 <p>Auxiliary contact</p>	Conventional thermal current I_{th} [A]	3A/230V
	Rated operational current I_e [A]	$I_n \leq 225A: 0.26A$; $I_n \geq 400A: 0.3A$
	Wiring diagram	 <p>The state of circuit breaker under "off" position</p> <p>The state of circuit breaker under "on" position</p>

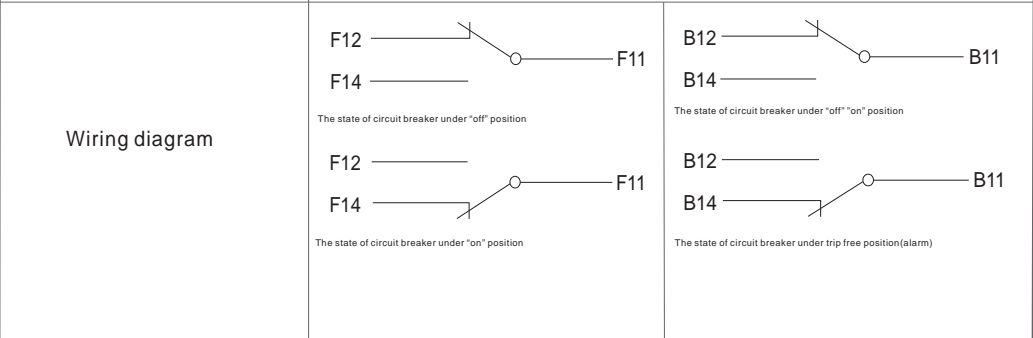
 <p>Alarm contact</p>	Conventional thermal current I_{th} [A]	3A/230V
	Rated operational current I_e [A]	$I_n \leq 225A: 0.26A$; $I_n \geq 400A: 0.3A$
	Wiring diagram	 <p>The state of circuit breaker under "off" "on" position</p> <p>The state of circuit breaker under trip free position(alarm)</p>

Auxiliary contact, Alarm contact



Conventional thermal current I_{th} [A] **3A/230V**

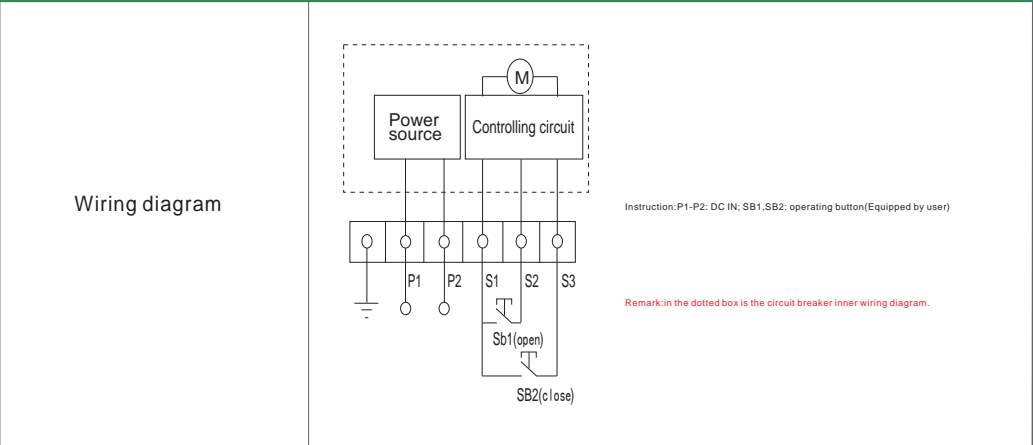
Rated operational current [A] **I_n ≤ 225A : 0.26A; I_n ≥ 400A : 0.3A**



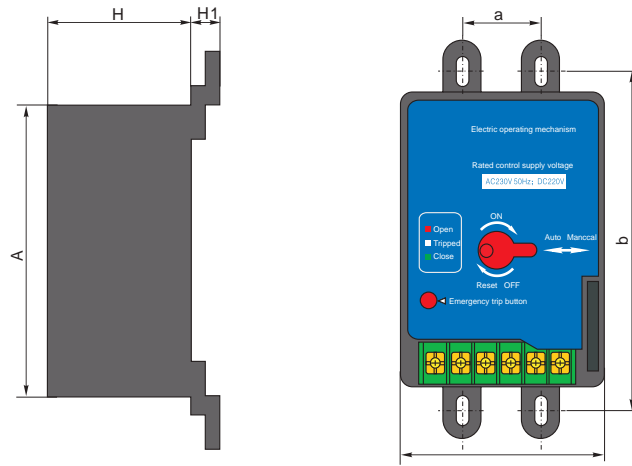
Electric operating mechanism



rated voltage [V] **AC230V, AC400V; DC110V, DC230V, DC24V**

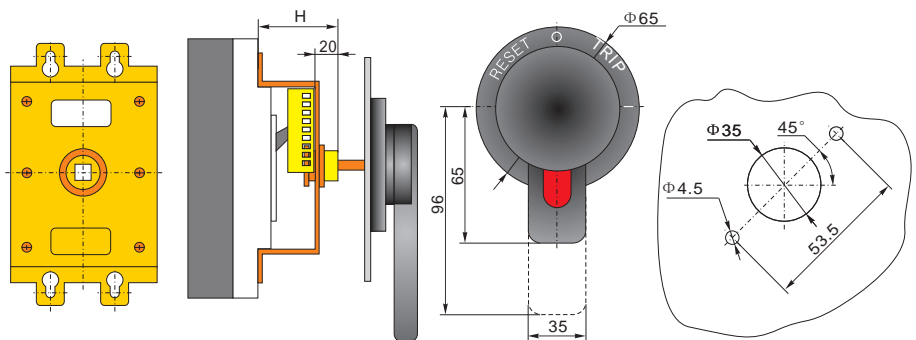


Electric operating mechanism shape and installation size



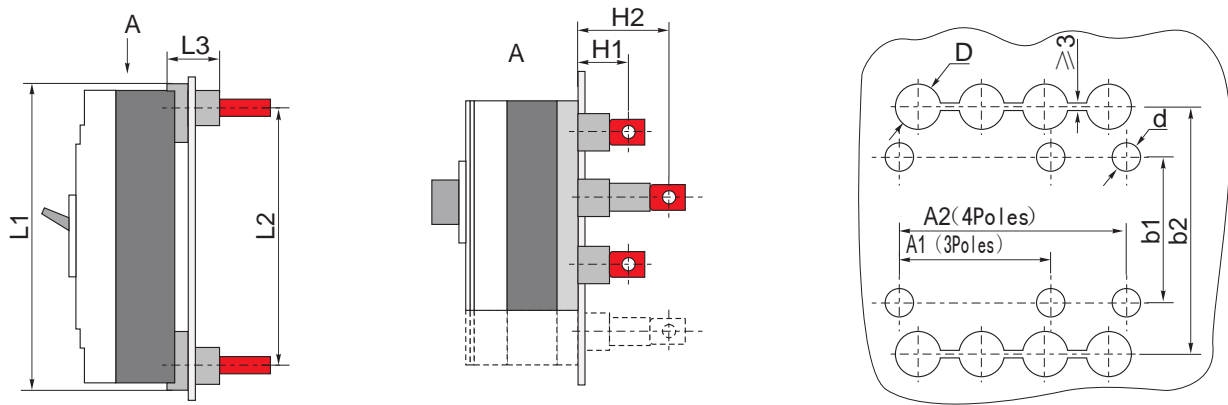
	Shape size [mm]				Installation size [mm]	
	L1	B	H	H1	a	b
MOD1-100	116	90	77	12.5	30	129
MOD2-225	116	90	77	15	35	126
MOD3-400	176	130	115	27	44	215
MOD4-630	176	130	115	31	70	243
MOD5-800	176	130	115	31	70	243

Rotary handle operating mechanism shape and installation size



Model	MOD1-100	MOD2-225	MOD3-400	MOD4-630	MOD5-800
Installation sizeH [mm]	49	55	74	66	66

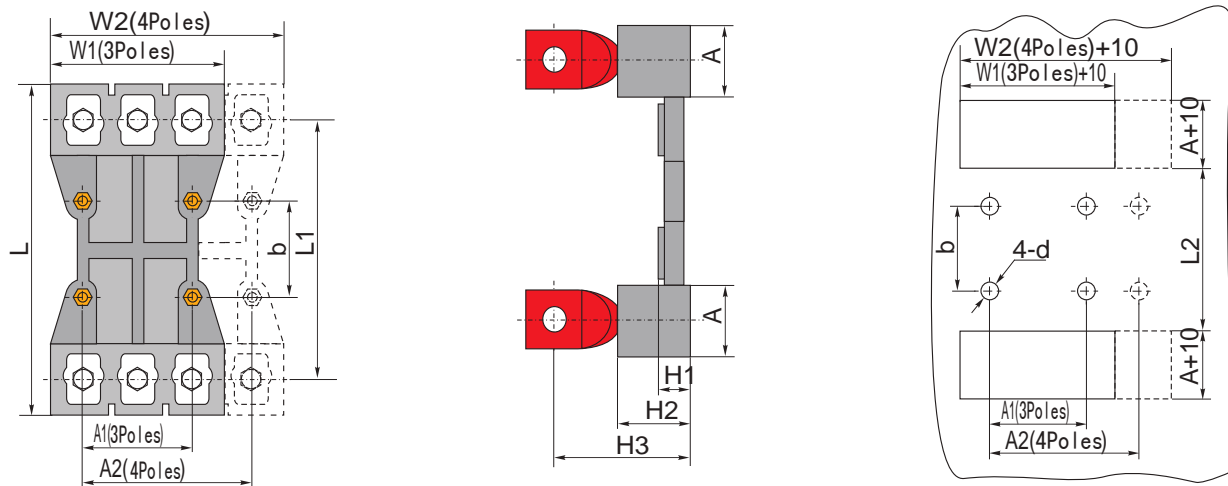
Circuit breaker panel back wiring shape and installation size



back panel wiring panel hole size

Model	shape size [mm]					installation size [mm]					
	L1	L2	L3	H1	H2	A1	A2	b1	b2	D	d
MOD1 3(4)Nx-125	164	132	35	53	93	72	102	90	132	Φ22	Φ5.5
MOD2 3(4)Nx-250	173	144	35	55	100	87	122	93	144	Φ24	Φ5.5
MOD3 3(4)Nx-400	267	224	37	48.5	108.5	124	172	164	224	Φ32	Φ6.5
MOD4 3(4)Nx-630	295	243	37	62	84	178	248	158	243	Φ48	Φ7.0
MOD5 3(4)Nx-800	295	243	37	62	84	178	248	158	243	Φ48	Φ7.0

Circuit breaker plug-in type back panel wiring shape and installation size



back panel wiring panel hole size

Model	W1	W2	L	L1	L2	A	H1	H2	H3	A1	A2	b	d
	3 Poles	4 Poles								3 Poles	4 Poles		
MOD1 3(4)Nx-125	84	115	168	132	90	31	17.5	50	64	60	90	56	Φ6.5
MOD2 3(4)Nx-250	100	135	183	144	88	41	17.5	50	71.5	70	105	54	Φ6.5
MOD3 3(4)Nx-400	142	190	279	224	166	48	21	60	83.5	60	108	129	Φ8.5
MOD4 3(4)Nx-630	203	273	296	243	183	48	18	61	97	140	210	143	Φ10
MOD5 3(4)Nx-800	203	273	296	243	183	48	18	61	97	140	210	143	Φ10