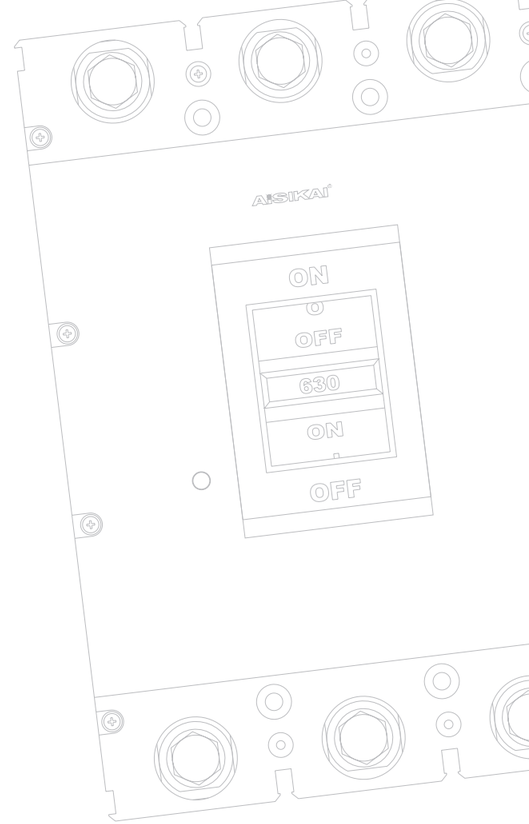
AISIKAI-2022OSG-ASKM1-V1.0

wechat

contact

AiSIKAI®



MOLDED CASE CIRCUIT BREAKER
SELECTION GUIDE

JIANGSU AISIKAI ELECTRIC CO.,LTD

Tel : +86-514-83872777 83872888
Fax: +86-514-83872000
Web: www.switchshops.com
E-mail: aisikai@aisikai.cc
Twitter: AISIKAI ELECTRIC
Facebook: Aisikai
Add: NO.5 Chuangye Road,Chenji Industrial Zone,Yizheng City,Jiangsu Province, China

JIANGSU AISIKAI ELECTRIC CO.,LTD

PRODUCT SCONTENTS

COMPANY PROFILE

Since established in 2007, AISIKAI has been committed to the manufacture, research, development and marketing of the high-quality high and low voltage electric switches. Our product lines cover level Ⅰ, Ⅱ, Ⅲ power distribution fields. We are awarded as the National High Tech Enterprise, Double-Soft Certified Enterprise (i.e., software product certified and software enterprise certified), Little Giant Science and Technology Enterprise of Jiangsu Province, and Contract-keeping and Trustworthy Enterprise. We have invention patents, utility model patents and appearance patents. All of AISIKAI products have China Compulsory Certification (CCC) and China Quality Certification (CQC). From 2014, we have been recognized as Yangzhou City Engineering Technology Center and National Adopting International Standard Enterprise.

AISIKAI products have CE certification and IEC CB certification. We have passed the ISO9001 Quality Management System and ISO14001 Environment Management System, ISO45001 Occupational Health Management System, and SGS Global Qualified Supplier Authentication.

QUALITY, SERVICE, REPUTATION, INNOVATION is AISIKAI's unchanging company principle. We're always eager to make progress to offer reliable products and impeccable services. With your support and trust, AISIKAI will thrive and work towards a brighter future.

MOLDED CASE CIRCUIT BREAKER

Time Tested, Safe and Reliable

ASKM1 series molded case circuit breaker (referred to as MCCB) is an important product of AISIKAI Electric in the field of low-voltage power distribution, and has been selling well in the field of power distribution for many years. MCCB covers a wide current range from 10A to 1600A. Derived from the basic type, we now have leakage protection type circuit breaker, electronic circuit breaker, LCD electronic circuit breaker, electronic leakage protection type circuit breaker and several other major categories of products.

Over the years, we have been specializing in the design, R&D and the professional manufacturing of the low voltage electric products. Oriented by the satisfaction and expectations of customers, we continuously improve product performance on the condition of safety and reliability. We use advanced automated assembly lines to ensure the timely delivery to customers. We observe strict quality standards to ensure that each product is qualified.

APPLICATIONS

Civil Commercial Industrial

STANDARDS

- IEC60947-1
- GB/T14048.1
- IEC60947-2
- GB/T14048.2
- IEC60947-4-1
- GB/T14048.4
- GB/T2423.10
- GB/T2423.4

ASKM1
Thermomagnetic circuit breaker frame
10A-800A

Leakage protection circuit breaker

ASKM1L
Thermomagnetic leakage protection circuit breaker
16A-630A

Function derivation

Electronic circuit breaker

ASKM1E
Electronic circuit breaker
12.5A-800A

Wide Range of Applications

ASKM1 series molded case circuit breakers comply with the IEC/GB standards and passed the China Compulsory Certification. MCCB are suitable for the various power grid systems with rated operational voltage of AC 400V and rated insulation voltage of AC 690V.

Comprehensive Protection Functions

ASKM1 series molded case circuit breaker has protection functions against overload, short-circuit and under-voltage. Each protection time is fixed value. In addition to the above-mentioned functions, the leakage molded case circuit breaker also has the function of leakage protection. Electronic molded case circuit breaker can set overload fault long delay action current, overload fault long delay action time, short-circuit fault short delay action current, short-circuit fault short delay action time, short-circuit fault instantaneous current, pre-alarm action current value.

Microprocessor Control

ASKM1E electronic molded case circuit breaker adopts MCU microprocessor-controlled tripping mechanism. The protection parameters can be targeted according to the characteristics of the power distribution system and load equipment to achieve precise protection.

Extensive Optional Accessories

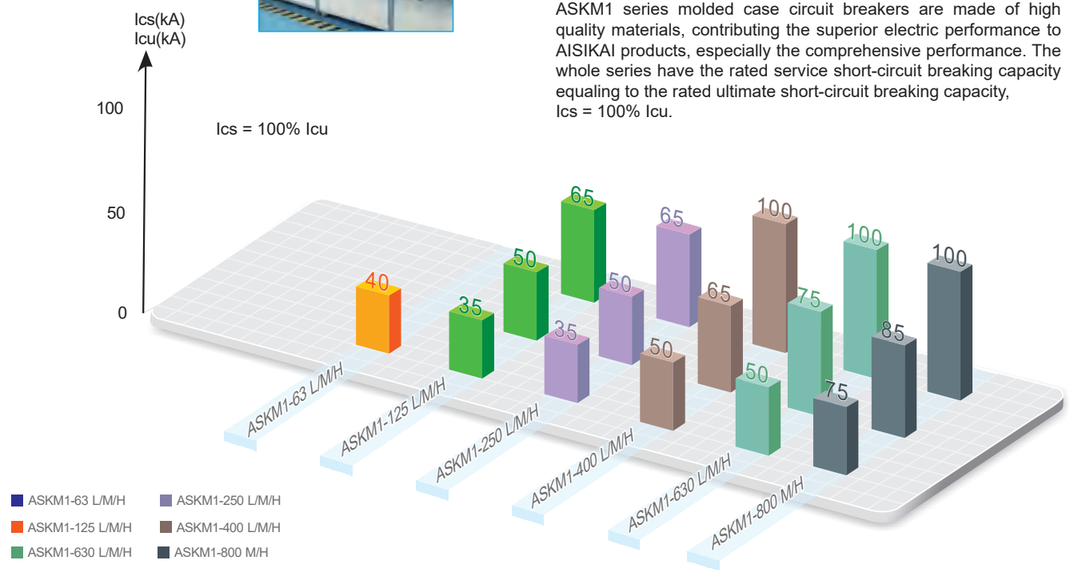
ASKM1 series molded case circuit breakers can be equipped with a wide range of optional accessories, thus meeting the functional requirements of various power distribution systems.

Internal mounting accessories:
Basic accessory modules can be installed individually or in any combination
Basic accessory modules: alarm contact, shunt tripper, auxiliary contact, under-voltage tripper

External mounting accessories
Electric operating mechanism, manual operating mechanism, mechanical operating mechanism

High-level Electric Parameters

ASKM1 series molded case circuit breakers are made of high quality materials, contributing the superior electric performance to AISIKAI products, especially the comprehensive performance. The whole series have the rated service short-circuit breaking capacity equaling to the rated ultimate short-circuit breaking capacity,
Ics = 100% Icu.



ASKM1 THERMOMAGNETIC NORMAL PROTECTION MOLDED CASE CIRCUIT BREAKER SELECTION TABLE

ASK	M	1	-	125	H	/	P	/	3	3	00	2	B	I	/	TH	/	R	/	100A
Company		Design serial		Frame rating	Rated ultimate short-circuit breaking capacity		Operation method		No. of poles	Tripper code	Internal accessories	Usage	Special code of N pole type	Special function code		Use environment		Installation wiring method		Rated current

Product code
Molded case circuit breaker

Company
AISIKAI ELECTRIC

Design serial

Frame rating
63
125
250
400
630
800

Rated ultimate short-circuit breaking capacity
L: standard
M: medium-high
H: high

Operation method
P: electric operating mechanism
Z: rotate handle operation
No code: direct handle operation

No. of poles
2: 2 poles
3: 3 poles
4: 4 poles

Tripper code
2:electromagnetic tripper, only have short-circuit protection
3: composite tripper, have short-circuit protection and overload protection

Internal accessories
00: no accessory
08: alarm contact
Refer to MCCB-18 for details

Usage
2: motor protection
No code: power distribution

Special code of N pole type
A:
B: default
C:
D:

Special function code
I: overload alarm non-trip function

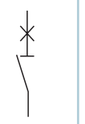
Use environment
No code: normal
TH: humid tropical

Installation wiring method
No code: front wiring
C: front extended wiring
R: rear wiring
PF: plug in front wring
PR: plug in rear wiring
DF: draw out front wiring
DR: draw out rear wiring

Rated current
10A~ 800A

Note: the special code of N pole type(for 4 poles products only. The default type is B if there is no special instructions when ordering)
A: N poles does not have over-current tripper. N pole is always closed and does not break/close along with the other three poles.
B: N poles does not have over-current tripper. N pole breaks/closes along with the other three poles. N pole is equipped with “first close, then split” function as standard.
C: N poles has over-current tripper. N pole breaks/closes along with the other three poles. N pole is equipped with “first close, then split” function as standard.
D: N poles has over-current tripper. N pole is always closed and does not break/close along with the other three poles.

Design marking



ASKM1

Model definition 1:

ASKM1- 125P/33002/ TH/ R/ 100A

1. normal molded case circuit breaker, 125A frame, electric operation;
2. 3 poles, composite tripper, no accessory, for motor protection;
3. humid tropical type, rear wiring.
4. rated current 100A

Model definition 2:

ASKM1- 250L/ 4300/ 160A

1. normal protection molded circuit breaker, 250A frame, standard breaking capacity, direct manual operation (implicit);
2. 4 poles, composite tripper, no accessory, for power distribution (implicit);
3. normal environment(implicit), front wiring(implicit);
4. rated current 160A

STANDARDS

IEC60947-1	GB/T14048.1	IEC60947-4-1	GB/T14048.4
IEC60947-2	GB/T14048.2	GB/T2423.10	GB/T2423.4

ASKM1 THERMOMAGNETIC NORMAL PROTECTION MOLDED CASE CIRCUIT BREAKER

OVERVIEW

- ASKM1 thermomagnetic molded case circuit breaker(hereinafter referred to as MCCB) is a new type of circuit breaker designed and developed by our company using international advanced technology. The rated insulation voltage of MCCB is 1000V. MCCB is suitable for the distribution network of AC 50Hz/60Hz, rated voltage 690V and below and rated current 10A-1600A. MCCB can distribute power and protect circuits and power equipment against faults like overload, under-voltage, short-circuit and under-voltage. MCCB can also be used for infrequent switching of lines and infrequent starting of motors. The products have the characteristics of small volume, high breaking capacity, short flying arc, vibration resistant, etc. The whole series have isolation function.

CLASSIFICATION

- **Classified by the rated limit short-circuit breaking capacity (Icu)**
  L-standard, M-medium high, H-high
- **Classified by the over-current tripper rated current(A)**
  Frame 63: 10, 16, 20, 25, 32, 40, 50, 63A
  Frame 125: 10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125A
  Frame 250: 100, 125, 140, 160, 180, 200, 250A
  Frame 400: 225, 250, 315, 350, 400A
  Frame 630: 400, 500, 630A
  Frame 800: 400, 500, 630, 700, 800A
  Frame 1600: 800, 1000, 1250, 1600A
- **Classified by wiring method**
  Front wiring, extended front wiring, rear wiring, plug in front wring, plug in rear wiring, draw out front wiring and draw out rear wiring
- **Classified by over-current tripper type**
  Composite: thermal+electromagnetic tripper(overload protection and short-circuit protection); thermomagnetic: electromagnetic tripper(short-circuit protection)
- **Classified by accessories**
  Internal accessories: shunt tripper, under-voltage tripper, auxiliary tripper, alarm tripper
  External accessories: manual operating mechanism, electric operating mechanism

FEATURES

- Small volume, high breaking capacity, short flying arc, vibration resistant;
  Reasonable structure, reliable performance, easy installation;
  Extensive optional accessories, can installed on-line, meet the technical requirements of different power distribution systems.

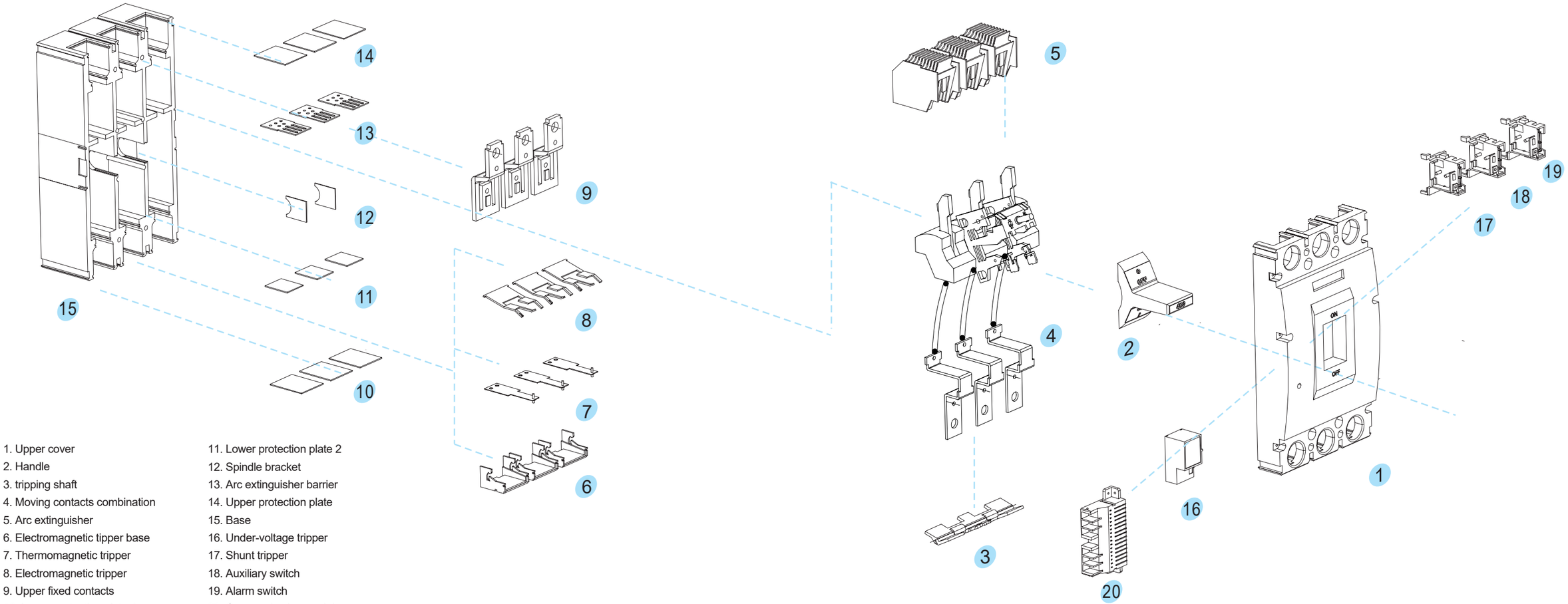
APPLICATIONS

Civil Commercial Industrial

NORMAL OPERATIONAL CONDITIONS AND INSTALLATION METHODS

Category	Requirement
Altitude	Lower than 2000 meters.
Operational temperature	Between -5℃ and +40℃. The average value in 24 hours does not exceed +35℃.
Pollution level	Level 3
Installation level	The installation level of circuit breaker main circuit is Ⅲ, it's Ⅱ for the auxiliary circuit and control circuit which do not connect with the main circuit .
Operational humidity	The relative humidity at +40℃ shall not exceed 50%. Higher relative humidity is allowed at lower temperature. The average maximum relative humidity is 90% in the most humid month and this month has the average minimum temperature of +25℃. The condensation that occurs on the surface of the product due to temperature changes should also be taken into consideration.
Installation conditions	Use environment should be without strong vibration and shock. The magnetic field near the installation site should not exceed 5 times the geomagnetic field in any direction. The leakage protection circuit breaker normally should be installed vertically.
Installation method	Install vertically or horizontally.
Wiring method	Wiring reversely is acceptable.

OVERVIEW



1. Upper cover
2. Handle
3. tripping shaft
4. Moving contacts combination
5. Arc extinguisher
6. Electromagnetic tipper base
7. Thermomagnetic tripper
8. Electromagnetic tripper
9. Upper fixed contacts
10. Lower protection plate 1
11. Lower protection plate 2
12. Spindle bracket
13. Arc extinguisher barrier
14. Upper protection plate
15. Base
16. Under-voltage tripper
17. Shunt tripper
18. Auxiliary switch
19. Alarm switch
20. Communication module

Structure overview	Contact mechanism	Working method
The molded case circuit breaker is a integral type structure, which is made of precision combination of internal parts. The base is designed with mounting positions for fixed contacts of each phase and arc extinguisher. The moving contact combination is driven by a manual handle to contact or separate from the fixed contacts to achieve manual control of the breaking/closing. When the thermal/electromagnetic protection exceeds the factory preset value, the tripper drives the moving contact combination into protection breaking. Three-phase detection transformer, monitoring circuit board and tripper are installed internally. Protection values can be adjusted on site according to usage.	The moving contacts of each phase are fixed to a base of SMC material, forming the moving contact combination. The breaking process is rapid due to the high strength spring. The arc extinguishers which are independent between each phase can extinguish arc rapidly.	The molded case circuit breaker is driven by a manual handle exposed on the panel, compressing the spring to close the circuit. When a fault occurs during normal operation, the tripper will be triggered by the thermal/electromagnetic tripper. The strong force of the spring instantly breaks the circuit, achieving over-current protection and short-circuit protection.

Under-voltage tripper	Shunt tripper
When the supply voltage drops to the range of 70%-35% of the rated operational voltage, the under-voltage tripper can reliably break the circuit breaker. When the supply voltage is lower than 35% of the rated operational voltage, the under-voltage tripper can prevent the circuit breaker from closing. When the supply voltage is higher than 85% of the rated operational voltage, the under-voltage tripper can ensure the reliable closing of the circuit breaker. The rated value of the under-voltage is AC 50Hz, 230V, 400V. Customers can install under-voltage tripper as needed.	The rated control power voltage of the shunt tripper: 50Hz, AC230V, AC400V; DC110V, 220V, 24V. When the voltage is 70%~110% of the rated value, it can reliably break the circuit breaker. Customers can install shunt tripper as needed.

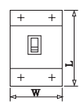
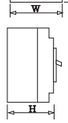
MAIN TECHNICAL PARAMETERS







Form 1

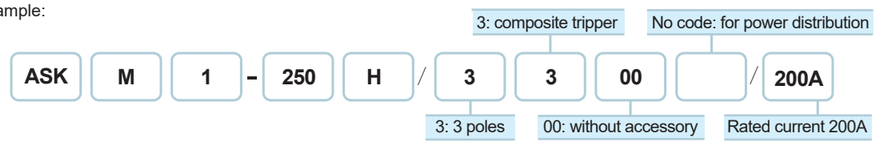
Model		ASKM1-63			ASKM1-125			ASKM1-250			ASKM1-400			ASKM1-630			ASKM1-800		ASKM1-1600		
Frame rating current Inm(A)		63			125			250			400			630			800		1600		
No. of poles		3P/4P			3P/4P			3P/4P			3P/4P			3P/4P			3P/4P		3P/4P		
Rated current In(A)		10, 16, 20, 25, 32, 40, 50, 63			10, 16, 20, 25, 32, 40, 50, 63 80, 100, 125			100, 125, 140, 160, 180, 200, 225, 250			225, 250, 315, 350, 400			400, 500, 630			400, 500, 630, 700, 800		800, 1000, 1250, 1600		
Rated insulation voltage Ui(V)		1000V			1000V			1000V			1000V			1000V			1000V		1000V		
Rated impulse withstand voltage Uimp(V)		12000V			12000V			12000V			12000V			12000V			12000V		12000V		
Rated operational voltage Ue(V)		AC400V/415V AC660V/690V									AC400V/415V AC660V/690V										
Arc distance		≥50(0)[2]			≥50(0)[2]			≥50(0)[2]			≥100(0)[2]			≥100(0)[2]			≥100(0)[2]		≥100(0)[2]		
Breaking capacity level		L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	M	H	L	M	H
Ultimate short-circuit breaking capacity Icu(kA)	AC400V	25	35	50	35	50	65	35	50	65	50	65	100	50	75	100	85	100	85	85	85
Service short-circuit breaking capacity Ics(kA)	AC400V	18	22	35	22	35	50	25	35	50	35	50	65	35	65	75	75	85	65	65	65
Use category		A			A			A			A			A			A		A		
Electrical service life(times)[1]	AC400V/415V	8000			8000			8000			7500			7500			7500		7500		
	AC660V/690V	1500			1500			1000			1000			1000			500		1000		
Mechanical service life(times)[1]	without maintenance	20000			20000			20000			10000			10000			10000		20000		
	with maintenance	40000			40000			40000			20000			20000			20000		20000		
Outline dimensions (mm)	W(3P/4P)	75/100			92/122			107/142			150/198			182/240			210/280		210/280		
	L	130			150			165			257			270			280		470		
	H (not including handle)	60			92			90			106.5			110			115.5		154		

Note:
1) According to GB/T14048.1, the term of “service life” indicates the probability that an appliance will complete a number of operating cycles before repairing or replacing a component.
2) Choose the height of 4mm zero arc cover for (ASKM1-63L/M, ASKM1-100C), 6.2mm for (ASKM1-160C/L/M/H), 8mm for (ASKM1-250C), 7.5mm for (ASKM1-250L/M/H), 9.3mm for (ASKM1-400C/L/M/H), ASKM1-630C/L/M/H), 9.5mm for(ASKM1-800L/M/H), realizing zero arc.

PROTECTION CHARACTERISTIC PARAMETERS–POWER DISTRIBUTION TYPE – COMPOSITE TRIPPER

The circuit breaker for power distribution equipped with composite tripper has overload and short-circuit protection.
The protection characteristics are factory set according to the following parameters. Some parameters can be customized.

Model Example:



Protection Function	Frame Rating	Rated Current In(A)	Action Characteristics
Overload protection A/B/C pole	Whole series	10~800	Act by I²rt 1.05Ir(cold state), no act within 1 h(In⩽63A) 1.3In (hot state),⩽1 h act(In⩽63A) 1.05Ir(cold state), no act within 2 h(In> 63A) 1.3In (hot state),⩽2 h act(In> 63A)

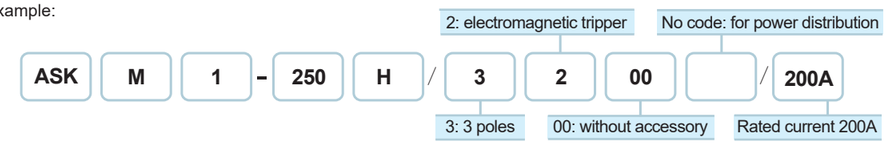
Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)		Action time
Short-circuit protection A/B/C pole	63	10~25	300		Act instantaneously
		32~63	10In		
	125	10~125	10In		
	250	100~140	10In		
		160~250	10In	5h can be customized	
	400	225~400	10In		
	630	400~630	10In		
	800	400~800	10In		
Action allowed error	±20%				

Protection Function		Frame Rating	Rated Current In(A)	N pole overload protection current set value(A), N pole short-circuit protection current set value(A)	
N pole protection (4 poles circuit breaker)	C / D	63	10~63	In,Ir	
		125	32~125	63,630	Can customize: N pole overload protection current=In N pole short-circuit protection current=Ir
		250	100~120	100,1000	
			225 / 250	125,1250	
		400	225~315	225.2250	
			350 / 400	250,2500	
		630	400~630	400,4000	
		800	400 / 500	400,4000	
			630~800	500,5000	
	A / B	Whole series	10~800	without protection	

PROTECTION CHARACTERISTIC PARAMETERS-POWER DISTRIBUTION TYPE — ELECTROMAGNETIC TRIPPER

The circuit breaker for power distribution equipped with electromagnetic tripper only has short-circuit protection.
The protection characteristics are factory set according to the following parameters. Some parameters can be customized.

Model Example:



The circuit breaker equipped with electromagnetic tripper can be added alarm without tripping function (code I).
Model is ASKM1-250H/3200I/200A.

Protection Function	Frame Rating	Rated Current In(A)	Action Characteristics(alarm only)
Overload alarm without tripping (note: 63 frame does not have this function)	63~800	10~800	Act by I² t 1.05Ir(cold state), no act within 1 h(In⩽63A) 1.3In (hot state),⩽1 h act(In⩽63A) 1.05Ir(cold state), no act within 2 h(In> 63A) 1.3In (hot state),⩽2 h act(In> 63A)

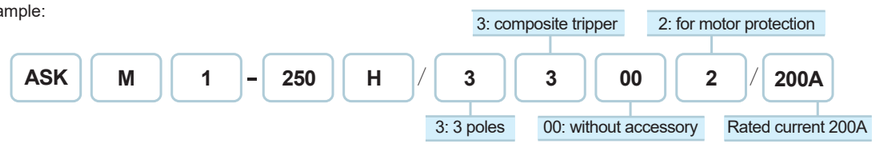
Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)		Action time
Short-circuit protection A/B/C pole	63	10~25	300		Act instantaneously
		32~63	10In		
	125	10~25	300		
		32~125	10In		
	250	100~140	10In		
		160~250	10In	5h can be customized	
	400	225~400	10In		
	630	400~630	10In		
	800	400~800	10In		
Action allowed error	±20%				

Protection Function		Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)		Action time
N pole protection (4 poles circuit breaker)	C / D	63	10~25	300		Act instantaneously
			32~63	10In		
		125	10~25	300		
			32~63	10In		
			80/125	630(10In can be customized)		
		250	100~120	1000	10In is available. Specify when ordering.	
			225~250	1250		
		400	225~315	2250		
			350/400	2500		
		630	400~630	4000		
		800	400/500	4000		
			630~800	5000		
	A / B	Whole series	10~800	without protection		

PROTECTION CHARACTERISTIC PARAMETERS– MOTOR PROTECTION TYPE – COMPOSITE TRIPPER

The circuit breaker for motor protection equipped with composite tripper has overload and short-circuit protection.
The protection characteristics are factory set according to the following parameters. Some parameters can be customized.

Model Example:



Protection Function	Frame Rating	Rated Current In(A)	Action Characteristics
Overload protection A/B/C pole （note: the maximum rated current of circuit breaker for motor protection is 630A）	Whole series	10~800	Act by I² t 1.0In(cold state), no act within 2 h 1.2In (hot state), 2 h act 1.5In(hot state), ⩽ 2 min(ASKM1-63L/M, ASKM1-100C) ⩽ 4 min(ASKM1-160L/M) ⩽ 8 min(ASKM1-250, 400, 630 and 800 In ⩽630A) 7.2In(cold state),0.5S<Tp⩽5S(ASKM1-63L/M, ASKM1-100C) 4S<Tp⩽10S(ASKM1-63L/M) 6S<Tp⩽20S(ASKM1-250,400,630 and 800 In⩽630A) Tripper level, 5ASKM1-1000C) 10(ASKM1-160L/M 20(ASKM1-250, 400, 630 and 800 In ⩽630A)

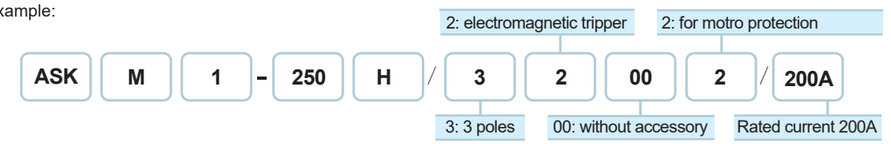
Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)	Action time
Short-circuit protection A/B/C pole	63	10~25	300	Act instantaneously
		32~63	12In	
	125	10~25	300	
		32~125	12In	
	250	100~250	12In	
	400	225~400	12n	
	630	400~630	12In	
	800	400~800	12In	
Action allowed error	±20%			

Protection Function		Frame Rating	Rated Current In(A)	N pole overload protection current set value(A), N pole short-circuit protection current set value(A)	
N pole protection (4 poles circuit breaker)	C / D	63	10~63	In,Ir	
		125	10~63	In,Ir	
			80/125	63,756	The type with N pole overload protection current set value of In, N pole short-circuit protection current set value of Ir is available. Specify when ordering.
		250	100~120	100,1200	
			225/250	125,1500	
		400	225~315	225,2700	
			350/400	250,3000	
		630	400~630	400,4800	
		800	400/630	400,4800	
			800	500,6000	
	A / B	Whole series	10~800	without protection	

PROTECTION CHARACTERISTIC PARAMETERS-MOTOR PROTECTION TYPE — ELECTROMAGNETIC TRIPPER

The circuit breaker for motor protection equipped with electromagnetic tripper only has short-circuit protection.
The protection characteristics are factory set according to the following parameters. Some parameters can be customized.

Model Example:



The circuit breaker equipped with electromagnetic tripper can be added alarm without tripping function (code I).
Model is ASKM1-250H/32002I/200A.

Protection Function	Frame Rating	Rated Current In(A)	Action Characteristics(alarm only)
Overload alarm without tripping (note: the maximum rated current of motor protection MCCB is 630A. 63 frame does not have this function)	160~800	10~800	Act by I² t 1.0In(cold state), no act within 2 h 1.2In (hot state), 2 h act 1.5In(hot state), ⩽ 2 min(ASKM1-63L/M, ASKM1-100C) ⩽ 4 min(ASKM1-160L/M) ⩽ 8 min(ASKM1-250, 400, 630 and 800 In ⩽630A) 7.2In(cold state),0.5S<Tp⩽5S(ASKM1-63L/M, ASKM1-100C) 4S<Tp⩽10S(ASKM1-63L/M) 6S<Tp⩽20S(ASKM1-250,400,630 and 800 In⩽630A) Tripper level, 5(ASKM1-1000C) 10(ASKM1-160L/M 20(ASKM1-250, 400, 630 and 800 In ⩽630A)

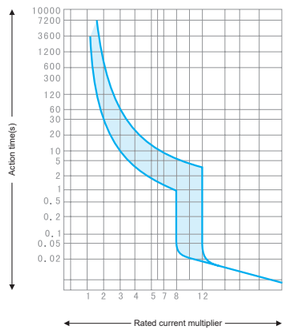
Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)	Action time
Short-circuit protection A/B/C pole	63	10~25	30	Act instantaneously
		32~63	12In	
	125	10~25	30	
		32~125	12In	
	250	100~250	12In	
	400	225~400	12In	
	630	400~630	12In	
	800	400~800	12In	
Action allowed error	±20%			

Protection Function		Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)		Action time
N pole protection (4 poles circuit breaker)	C / D	63	10~25	300		Act instantaneously
			32~63	12In		
		125	10~25	300		
			32~125	12In		
		250	100~120	1200	12In can be customized	
			225~250	1500		
		400	225~315	2700		
			350/400	3000		
		630	400~630	4800		
		800	400/500	4800		
			800	6000		
	A / B	Whole series	10~800	without protection		

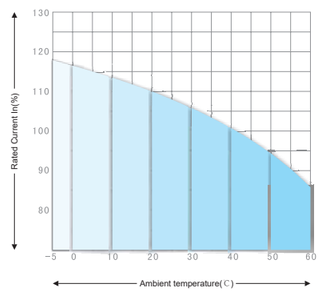
POWER DISTRIBUTION CIRCUIT BREAKER INVERSE TIME PROTECTION CHARACTERISTIC CURVE

63/125 Frame 10A~32A

Action time

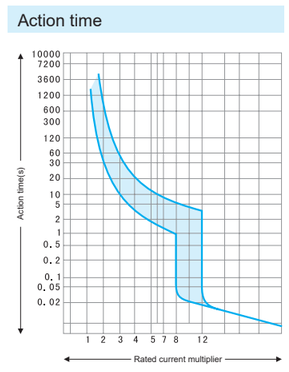


Temperature compensation curve

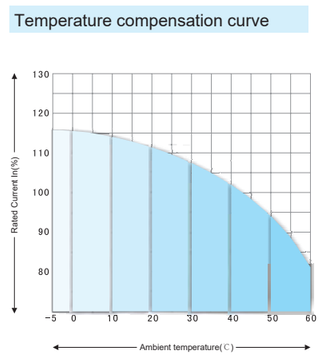


63/125 Frame 40A~125A

Action time

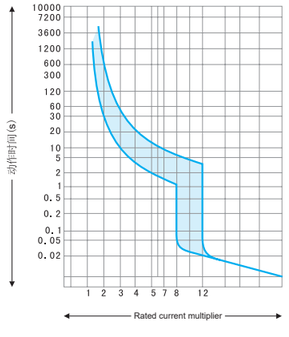


Temperature compensation curve

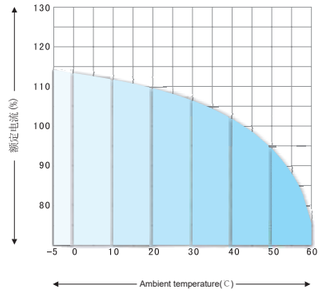


250 Frame

Action time



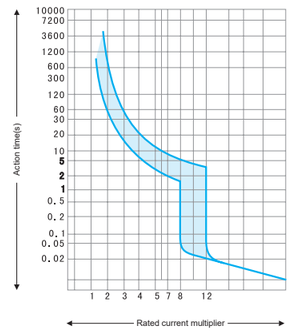
Temperature compensation curve



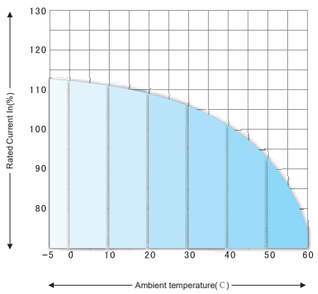
POWER DISTRIBUTION CIRCUIT BREAKER INVERSE TIME PROTECTION CHARACTERISTIC CURVE

400 Frame

Action time

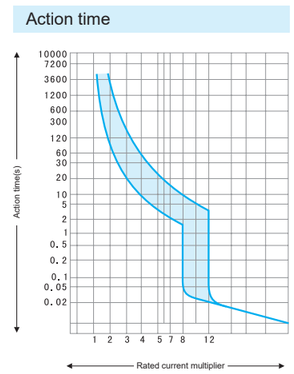


Temperature compensation curve

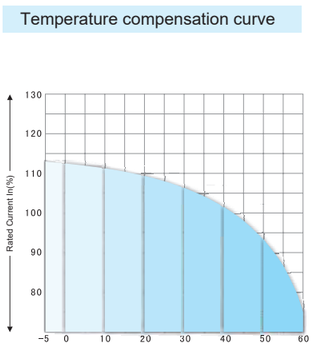


630 Frame

Action time

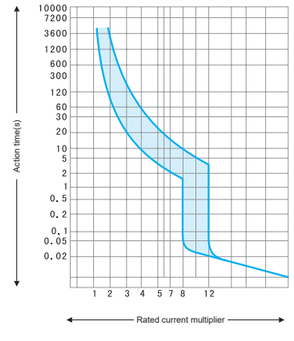


Temperature compensation curve

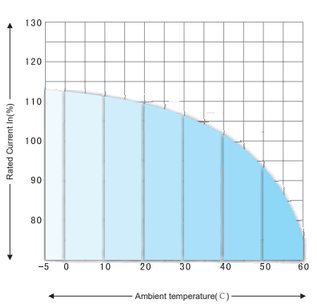


800 Frame

Action time



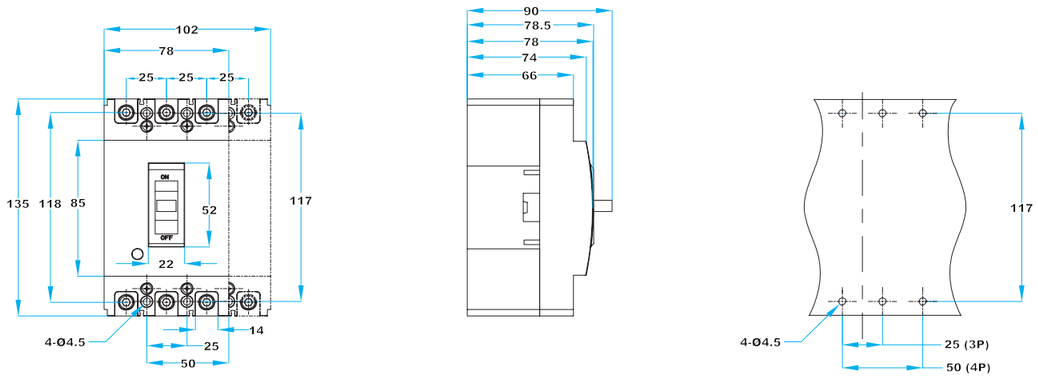
Temperature compensation curve



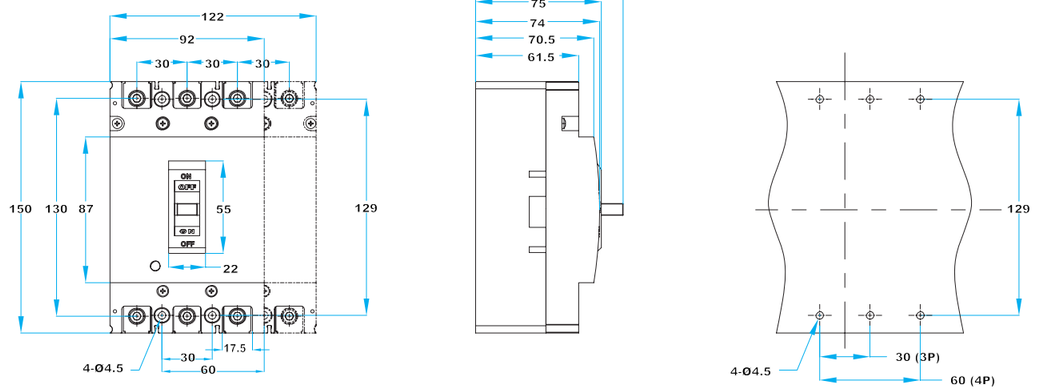
OUTLINE AND INSTALLATION DIMENSIONS

Front wiring

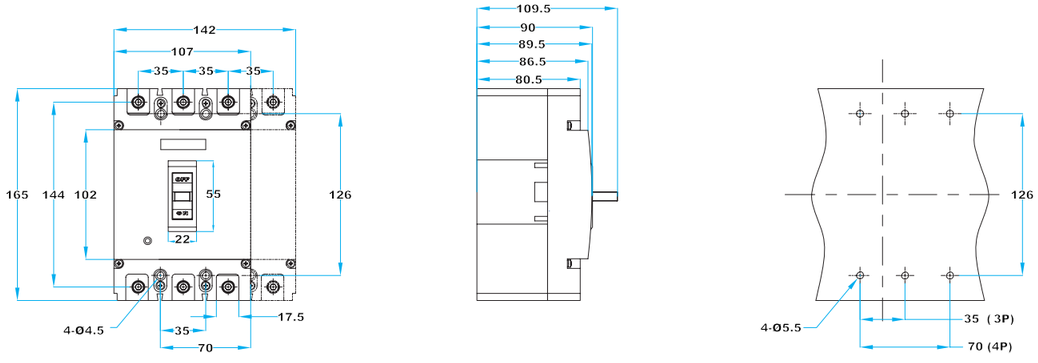
ASKM1-63 Frame



ASKM1-125 Frame

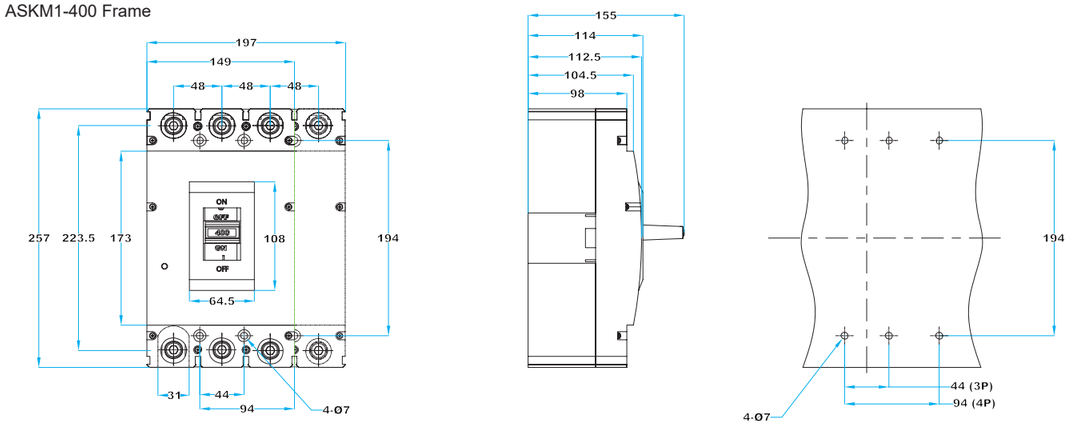


ASKM1-250 Frame

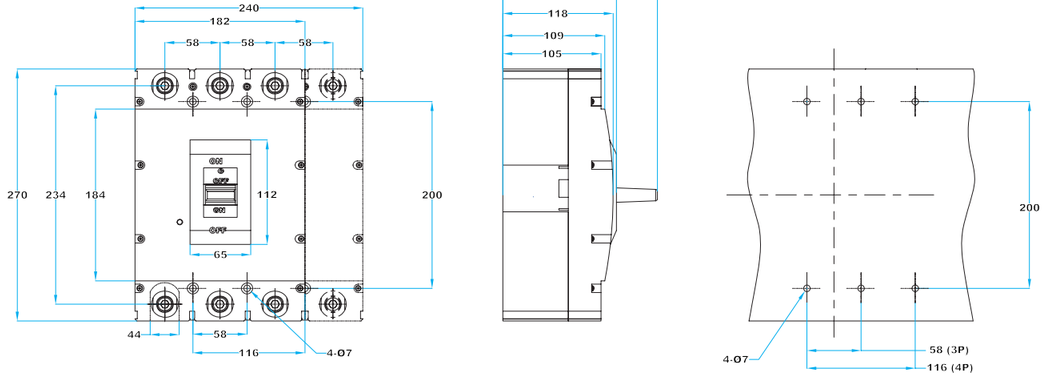


Front wiring

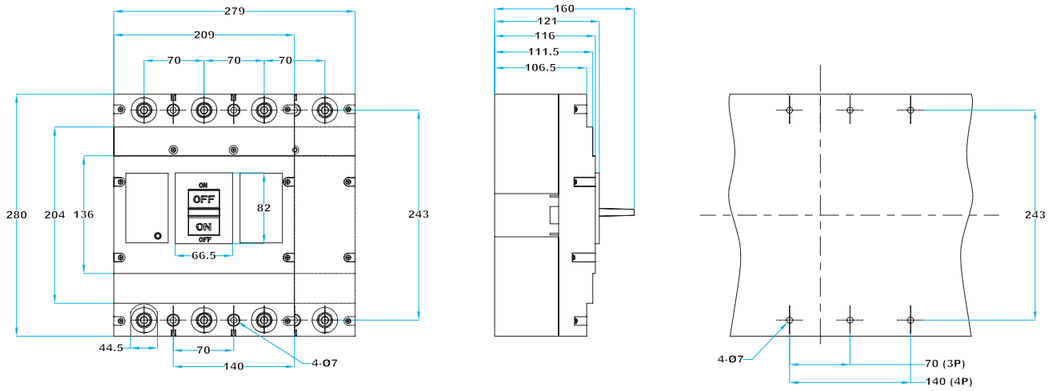
ASKM1-400 Frame



ASKM1-630 Frame



ASKM1-800 Frame



INTERNAL OPTIONAL ACCESSORIES

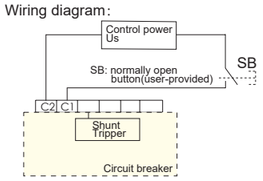
The ASKM1 thermomagnetic circuit breaker has five basic accessory modules available for optional installation inside the switch

Shunt Tripper MODEL: FJ-FT-ASKM1

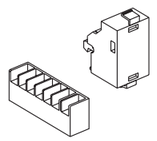
Usage:
Shunt tripper is used to remotely control the breaking of the circuit breaker. It is instantaneous working system. Long time energizing is prohibited. Each power-on time is recommended to be no more than 1s.
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable outlet wire method: terminal type

Control power: Us=(70%-110%)Ue
Frequency: 50/60 Hz Us=(70%-110%)Ue
Ue: rated operational voltage of shunt tripper
Default voltage: AC 220V
Optional voltage:AC 380V DC110V DC220V

Wiring diagram:



Outline:

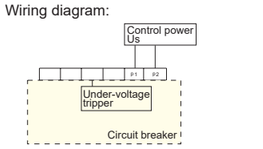


Under-voltage tripper MODEL: FJ-QT-ASKM1

Usage:
Under-voltage tripper is used for low voltage protection of power lines and power-using equipment. It ensures that load equipment is not damaged by a malfunction caused by a voltage below the rated value.
Standard outlet wire method:
Module type
(Control module is installed on the side of the circuit breaker, and the under-voltage tripper is installed inside the breaker)

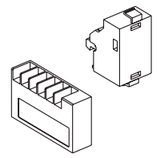
1.Control power voltage Us1: when Us1=(35%-70%)Ue, the under-voltage tripper can reliably break circuit breaker.
2.Control power voltage Us2: when Us2:Us2=(85%-110%)Ue, the circuit breaker can close normally.
3.Control power voltage Us3: when Us3≤35%Ue,the under-voltage tripper can prevent circuit breaker from closing.
Frequency: 50/60Hz
Ue: rated operational voltage
Standard voltage AC230V
Optional voltage: AC380V AC110V

Wiring diagram:



Special reminder:
The circuit breaker equipped with an under-voltage tripper can only be normally opened and closed if Us2 voltage is input between the P1 and P2 terminals.

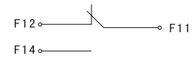
Outline:



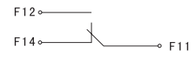
Auxiliary switch MODEL: FJ-FC-ASKM1

Usage:
It is used to provide the breaking and closing status signal of the circuit breaker, helping the secondary control circuit to realize the automatic control function
1 normally open 1 normally closed: 1NO1NC
2 normally open 2 normally closed: 2NO2NC
4 normally open 4 normally closed: 4NO4NC
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable outlet wire method: terminal type

When circuit breaker is at position of open or free trip

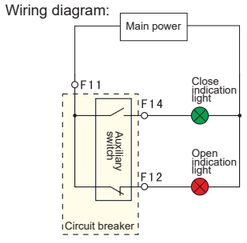


When circuit breaker is at closing position

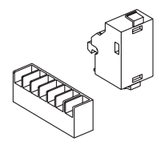


Conventional thermal current: Ith=3A

Wiring diagram:



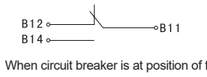
Outline:



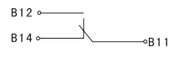
Alarm switch MODEL: FJ-BC-ASKM1

Usage:
It is used to provide the overload, short-circuit(free trip) and under-voltage fault(fault trip) status signal of the circuit breaker, helping the secondary control circuit to realize the automatic control function.
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable outlet wire method: terminal type

When circuit breaker is at position of open/closed

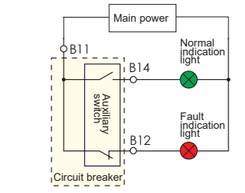


When circuit breaker is at position of free trip&fault trip

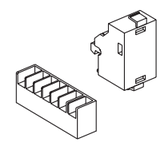


Conventional thermal current: Ith=3A

Wiring diagram:



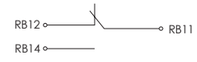
Outline:



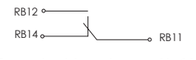
Overload alarm without tripping module MODEL: FJ-GZBJ-ASKM1

Usage:
In the case of overload of circuit breaker, the module provides alarm signal and the circuit breaker does not trip, ensuring the continuity of power supply, suitable for places with special requirements.

When circuit breaker is overload

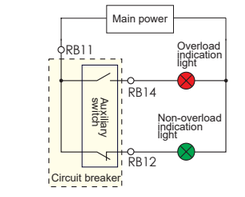


When circuit breaker is not overload

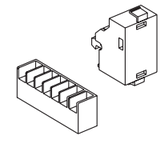


Conventional thermal current: Ith=3A

Wiring diagram:



Outline:



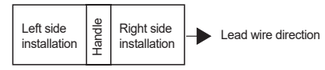
INTERNAL ACCESSORIES CODE TABLE

Depending on the application requirements, one or more base modules can be installed inside the switch.
Each module has an individual code. Different modules can be combined and have a new accessory code.

Internal accessories icons

- ☐ Alarm switch
- ■ Auxiliary switch
- ● Shunt tripper
- ○ under-voltage tripper

Internal accessories installation position schematic diagram



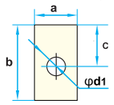
Code	Accessory	ASKM1-63 3P/4P	ASKM1-100C 3P/4P	ASKM1-160 3P/4P	ASKM1-250 3P/4P	ASKM1-400/630/800 3P/4P
00	No accessory					
08	Alarm switch					
10	Shunt tripper					
20	Auxiliary switch(1NO1NC)					
	Auxiliary switch(2NO2NC)					
02	Auxiliary switch(2NO2NC)					
30	Under-voltage tripper					
40	Shunt tripper+Auxiliary switch(1NO1NC)					
	Shunt tripper+Auxiliary switch(2NO2NC)					
12	Shunt tripper+Auxiliary switch(2NO2NC)					
50	Shunt tripper+under-voltage tripper					
60	2 sets of auxiliary switches(2NO2NC)					
	2 sets of auxiliary switches(4NO4NC)					
22	2 sets of auxiliary switches(3NO3NC)					
23	2 sets of auxiliary switches(4NO4NC)					
70	Under-voltage tripper+Auxiliary switch(1NO1NC)					
	Under-voltage tripper+Auxiliary switch(2NO2NC)					
32	Under-voltage tripper+Auxiliary switch(2NO2NC)					
18	Shunt tripper+Alarm switch					
28	Auxiliary switch(1NO1NC)+Alarm switch					
	Auxiliary switch(2NO2NC)+Alarm switch					
38	Under-voltage tripper+Alarm switch					
48	Shunt tripper+Auxiliary switch(1NO1NC) +Alarm switch					
	Shunt tripper+Auxiliary switch(2NO2NC) +Alarm switch					
68	2 sets of auxiliary switches(2NO2NC) +Alarm switch					
	2 sets of auxiliary switches(4NO4NC) +Alarm switch					
05	2 sets of auxiliary switches(3NO3NC) +Alarm switch					
78	Under-voltage tripper+Auxiliary switch(1NO1NC) +Alarm switch					

External Optional Accessory- Plug-in Front Wiring Base

Optional plug-in front wiring base is available for ASKM1 circuit breaker.

Plug-in front wiring base(PF) MODEL: FJ-BQDZ-ASKM1

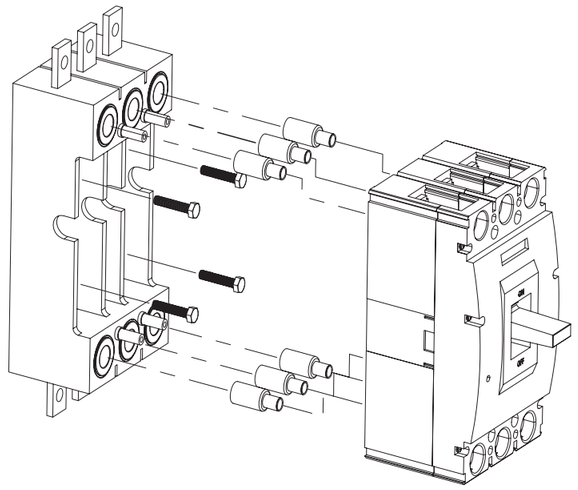
Usage:
The plug-in front wiring base is mounted on the back of the molded case circuit breaker, and is integrated with the breaker through conductive copper posts and fastening bolts. In the event of a serious circuit breaker failure, the circuit breaker can be quickly repaired and replaced without removing the primary cable.
Copper bars dimensions(mm)



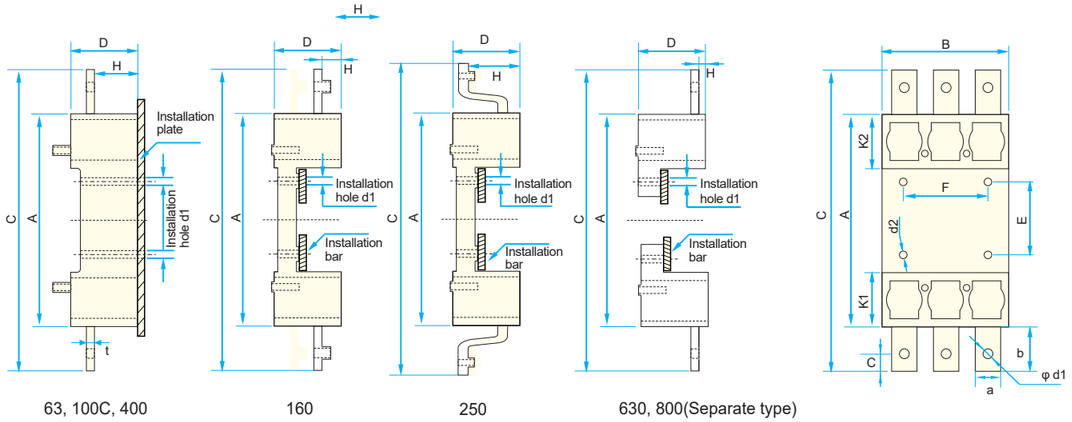
63-800 Frame

Frame	a	b	c	d1
63	13	16	8.5	5.5
125	19	21	11	6.5
250	22	36	15	8.5
400	25	37	15.5	11
630	32	50	15.5	12
800	35	50	15.5	13

Installation schematic diagram:



Outline and installation dimensions:



63, 100C, 400 160 250 630, 800(Separate type)

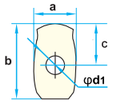
Frame	Outline and installation opening dimensions										
	A	B	C	D	E	F	H	K1	K2	d2	t
63A	139	78	171	44	60	50	27	—	—	5	2
125A	172	96	214	50	60	66	15	38	38	7	3
250A	183	110	254	51.5	64	70	46	44	44	7	3
400A	276	150	352	80	135	115	31	—	—	7	6
630A	334	180	434	84	123	100	22	65	65	8.5	8
800A	304	210	404	87	144	91	13	62	62	11	8

External Optional Accessory- Plug-in Rear Wiring Base

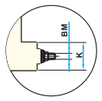
Optional plug-in rear wiring base is available for ASKM1 circuit breaker.

Plug-in rear wiring base(PF) MODEL: FJ-BHDZ-ASKM1E

Usage:
The plug-in rear wiring base is mounted on the back of the molded case circuit breaker, and is integrated with the breaker through conductive copper posts and fastening bolts. In the event of a serious circuit breaker failure, the circuit breaker can be quickly repaired and replaced without removing the primary cable.
Copper bars dimensions(mm)



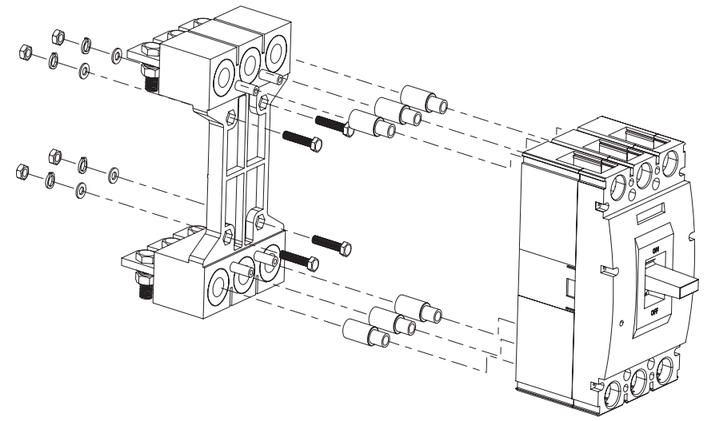
63-800 Frame



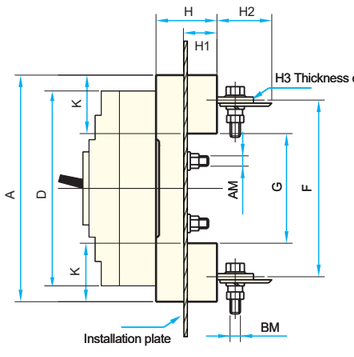
800 Frame

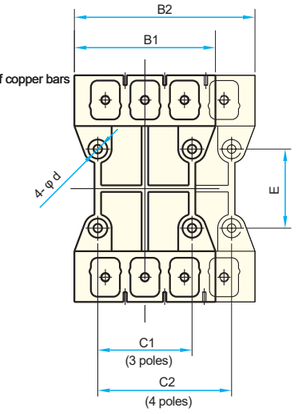
Frame	a	b	c	d1
63	10	18	8	6
125	18	34	18	8
250	21	36	20	8
400	30	43	22	12
630	32	46	17	12
800	BM=(Bolt outlet wire)			

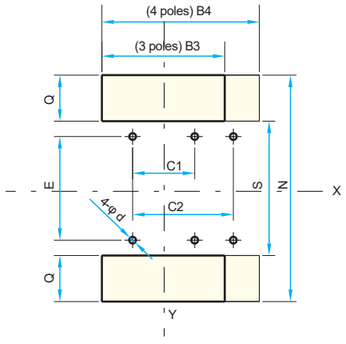
Installation schematic diagram:



Outline and installation dimensions:







Installation plate opening dimensions(mm)

Frame	Outline and installation dimensions(mm)														Opening dimensions(mm)				
	A	B1	B2	C1	C2	D	E	F	G	K	H	H1	H2	H3	N	S	Q	B3	B4
63A	135	75	100	50	75	130	60	117	100	18	28	18	16	2	145	90	28	85	110
125A	168	91	125	60	90	150	56	132	92	38	50	33	35	3.5	178	82	48	101	135
250A	186	107	145	70	105	165	54	145	94	46	50	33	37	5.5	196	84	56	117	155
400A	280	149	200	60	108	257	129	224	170	55	60	38	46	8	290	160	65	159	210
630A	300	182	242	100	158	270	123	234	170	65	60	39	50	11	310	160	75	192	252
800A	305	210	280	90	162	280	146	243	181	62	87	60	16	/	315	171	72	220	290

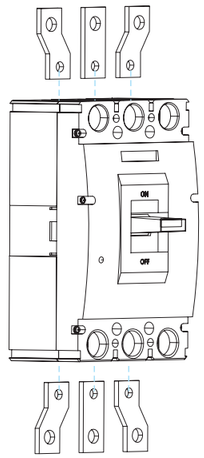
External Optional Accessory- Front Extended Copper Bars

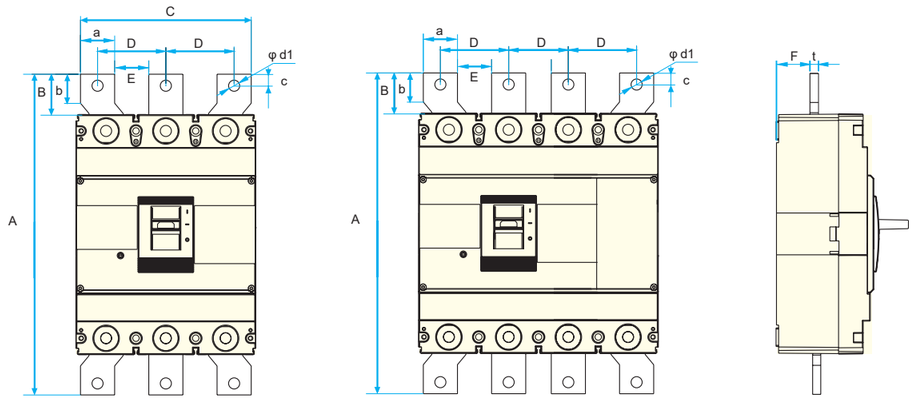
Optional front extended wiring is available for ASKM1 circuit breaker.

Front extended copper bard(C)	MODEL: FJ-BQJC-ASKM1

Usage:
The front extended copper bars are installed at the inlet copper bars and outlet copper bars of the molded case circuit breaker, which expands the primary cable wiring space and facilitates the quick installation of cables on site.

Installation schematic diagram:





Fromm	Outline and installation opening dimensions										
	A	B	C	D	E	F	a	b	c	d1	t
63A	181	25	76	32	20	24	12	15	6	6	4
125A	197	23	93	39	24	28.5	15	15	7.5	8.5	4
250A	245	40	104	42	22	22.6	20	23	9	9	5
400A	340	41	148	60	32	38	28	25	15	14	6
630A	368	49	176	68	28	45.5	40	34	14	13	7.8
800A	376	48	200	80	40	39	40	34	14	13	10

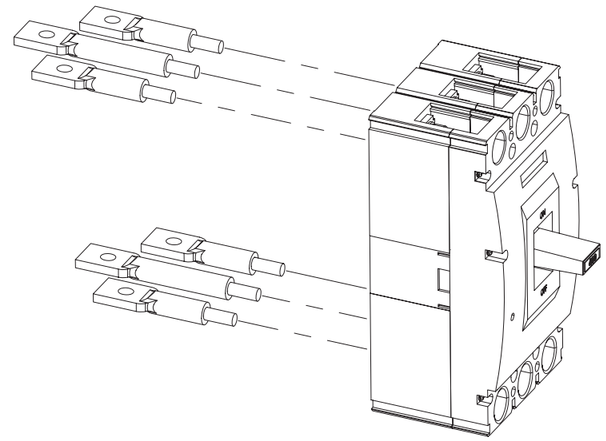
External Optional Accessory- Rear Copper Bars

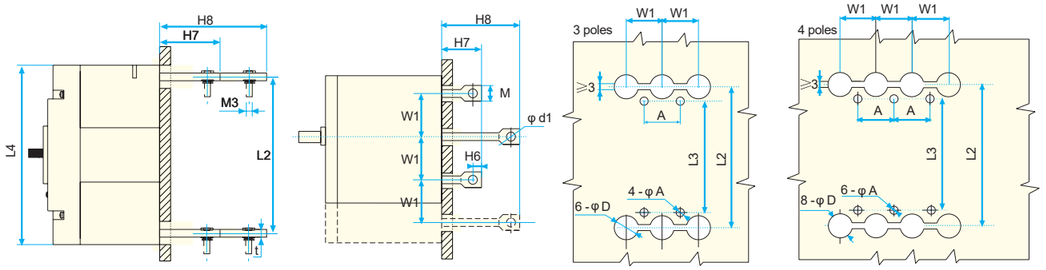
Optional real wiring is available for ASKM1 circuit breaker

Rear wiring(R)	MODEL: FJ-BQJC-ASKM1

Usage:
The rear copper bars are installed at the inlet copper bars and outlet copper bars of the molded case circuit breaker, which can change the circuit breaker vertical front wiring to horizontal rear wiring, isolating the primary cable behind the mounting board and improving the safety factor of the electrical cabinet.

Installation schematic diagram:





	63A	125A	250A	400A	630A	800A
A	25	30	35	44	58	70
φ A	3.5	4.5	4.5	7	7	7
φ D	8	10	12	33	37	37
L2	115.5	132	144	224	235	243
L3	111	129	126	194	200	243
L4	130	150	165	257	270	280
W1	8	30	35	48	58	70
φ d1	–	8	8	12	12	16
M	M6 (bolt output)	19	19	31	31	34
t	M6 (bolt output)	4.5	4.5	7.5	7.5	10.5
H6	–	14	14	21	21	22
H7	35	53.5	60	55	48.5	73
H8	52	85.5	92	90	83.5	112

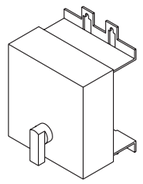
External Optional Accessory-Electric Operating Mechanism

Optional CD1 type or CD2 type electric operating mechanism is available for ASKM1 circuit breaker.

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1- ASKM1- 250

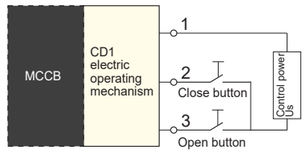
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally driven by electromagnet, it has the advantage of low starting current.

Applicable frame: 63, 125, 250
Standard wiring method: Lead wire type

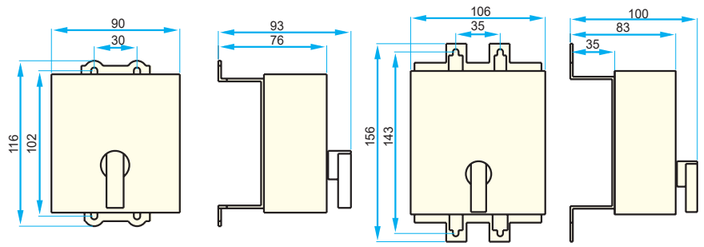


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V

Wiring diagram:



Installation schematic diagram:

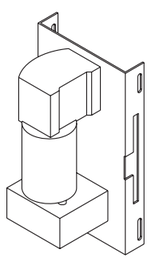


Applicable frame: 63, 100C — Applicable frame: 250

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1- ASKM1- 400

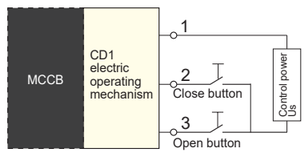
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally driven by motor, it has the advantage of low starting current.

Applicable frame: 400, 630, 800
Standard wiring method: Terminal type

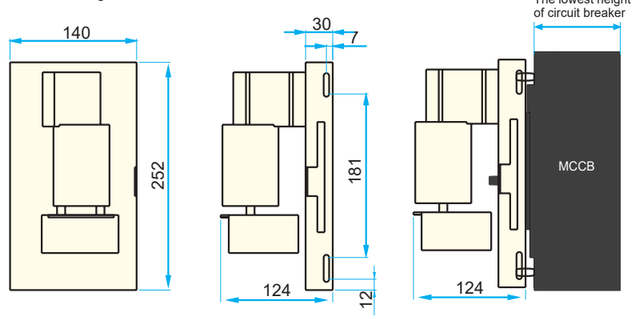


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V
DC 220V

Wiring diagram:



Installation schematic diagram:

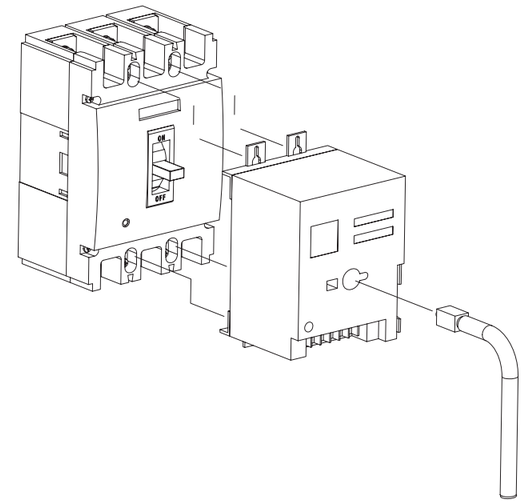


Electric Operating Mechanism- CD2 — MODEL: FJ-DC/CD2- ASKM1

Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally driven by permanent magnet motor, it has the advantage of low starting current and wide control voltage range.

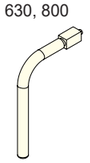
Applicable frame: 63-800 whole series
Standard wiring method: Terminal type

Wiring diagram:



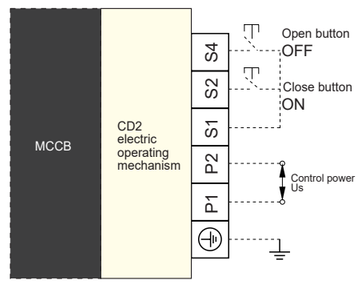
Manual handle:
frame 63, 125, 250

frame 400, 630, 800

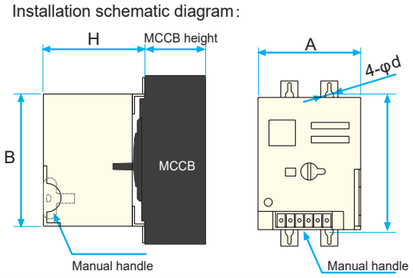


Control power: Us=(70%-110%) Ue
Frequency: 50Hz
Ue:rated operational voltage of shunt tripper
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V
DC 220V

Wiring diagram:



Installation schematic diagram:



Model	Outline and installation dimensions(mm)				Action current (A)	Mechanical service life	Motor power (w)
	A	B	H	4-φd			
ASKM1-63	90	116	94	4.5	≤0.5	14000	14
ASKM1-125	90	116	94	4.5	≤0.5	14000	14
ASKM1-250	90	116	90	4.5	≤0.5	14000	14
ASKM1-400	130	176	143	6.5	≤2	5000	35
ASKM1-630	130	176	147	6.5	≤2	5000	35
ASKM1-800	130	176	147	6.5	≤2	5000	35

External Optional Accessory-Electric Operating Mechanism

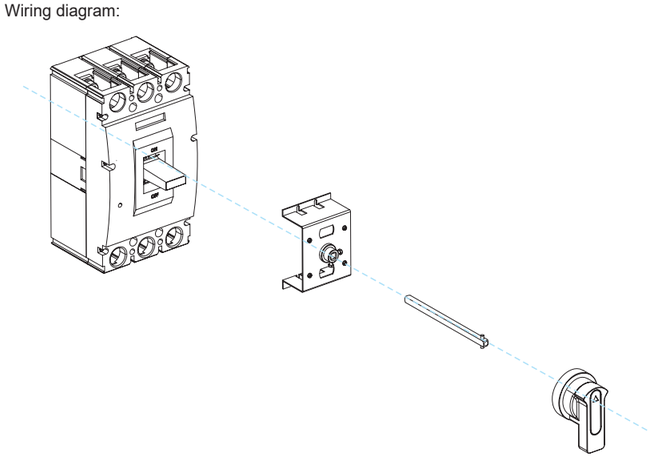
Optional manual operating mechanism is available for ASKM1 circuit breaker.

Manual operating mechanism	MODEL: FJ-SC- ASKM1

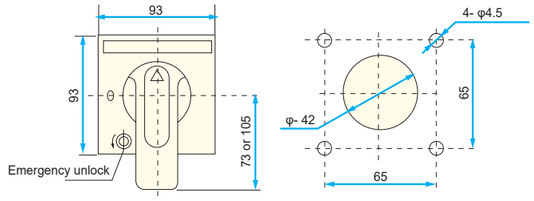
Usage:
The manual operating mechanism is installed on the front of the circuit breaker. Through rotating handle, it realizes the requirement of operation on the panels of drawer cabinet, distribution cabinet, power box, etc. It also provides the function of interlocking between the circuit breaker and the cabinet door panel.

Features:
1.When the circuit breaker is in the closed state, the manual operating mechanism is interlocked with the door plate and the cabinet door cannot be opened.
2.In case of failure when operating handle or manual operating mechanism in the closed state, the cabinet door can be opened by the emergency unlocking device on the operating handle.
3.For the manual handles matching with the manual operating mechanisms corresponding to different frames, they have the same openings on door plates.
4.The length of standard square shaft is 150mm. We can also provide special specification.

Wiring diagram:

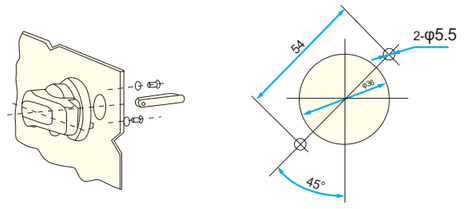


Square handle dimensions: type F



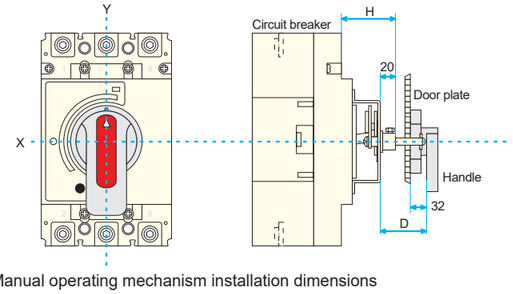
Square handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

Round handle dimensions: type A(default)



Round handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

Manual operating mechanism installation schematic diagram



Attention:
The manual operating mechanism used with our molded case circuit breaker must be ordered from our company to ensure the quality of the product. If the user purchases other brands, our company will not bear any adverse consequence occurring after the installation.

Manual operating mechanism installation dimensions

Model	ASKM1-63	ASKM1-125	ASKM1-250	ASKM1-400	ASKM1-630	ASKM1-800
Installation dimensions(H)	49	54	54	84	76	76
Operating handle to the center of circuit breaker Y value	0	0	0	0	0	-20

RATED CURRENT AND WIRE CROSS SECTION AREA

Connection Wire Reference Cross Section Area

Rated current(A)	10	16, 20	25	32	40, 50	63	80	100	125, 140	160	180, 200, 225	250	315, 350	400
Wire cross section area (mm²)	1.5	2.5	4	6	10	16	25	35	50	70	95	120	185	240

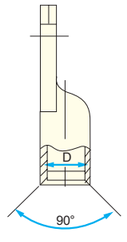
Rated current(A)	Cable		Copper bars	
	Cross section area(mm²)	Quantity	Size(mm×mm)	Quantity
500	150	2	30x5	2
630	185	2	40x5	2
700/800	240	2	50x5	2

MODEL OF WIRING TERMINALS

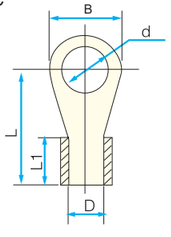
JGC\JBC wiring terminal reference dimension

JGC

JGC



JBC



Model	Current(A)	Wire cross section area (mm²)	Terminal model	B	L	L1	D	d
63	10, 16, 20	2.5	JBC2.5-5	10.4	18.2	9	φ2.6	φ5.2
	25	4	JBC4-5	11.7	20.2	9	φ2.8	φ5.2
	32	6	JBC6-5	12.8	22.6	10.3	φ3.5	φ5.2
	40, 50	10	JBC10-5	13.7	25.2	12.2	φ4.2	φ5.2
	63	16	JBC16-5	12.5	38	31.5	φ6	φ5.2
125	10, 16, 20	2.5	JBC2.5-8	15	24.5	8.5	φ2.6	φ8.2
	25	4	JBC4-8	13.4	20.4	9.2	φ2.8	φ8.2
	32	6	JBC6-8	15	24.5	10	φ3.5	φ8.2
	40, 50	10	JBC10-8	15	24.5	11	φ4.5	φ8.2
	63	16	JBC16-8	12.5	41	33.5	φ6	φ8.2
	80	25	JGC25-8	14	46	38.5	φ7	φ8.2
	100	35	JGC35-8	15.5	52	44.5	φ8	φ8.2
	100	35	JGC35-8	15.5	52	44.5	φ8	φ8.2
160	125, 140	50	JGC50-8	17	54	45	φ10	φ8.2
	160	70	JGC70-8	21.6	61	52	φ11	φ8.2
250	100	35	JGC35-8	15.5	52	44.5	φ8	φ8.2
	125, 140	50	JGC50-8	17	54	45	φ10	φ8.2
	160	70	JGC70-8	21.6	61	52	φ11	φ8.2
	180, 200, 225	95	JGC95-8	22	66	57	φ13	φ8.2
	250	95	JGC95-8	22	66	57	φ13	φ8.2

ASKM1E ASKM1E INTELLIGENT NORMAL PROTECTION MOLDED CASE CIRCUIT BREAKER SELECTION TABLE

ASK	M	1	E	–	125	H	P	/	T	/	4	3	00	2	B	G	/	TH	/	R	/	125A

Product code
Molded case circuit breaker

Function Derivation Code
E: electronic type

Short-circuit breaking capacity
M: medium-high
H: high

No. of poles
3: 3 poles
4: 4 poles

Special code of N pole type
A:
B: default
C:
D:

Internal accessories
00: no accessory, Refer to MCCB-42 for details

Use environment
No code: normal
TH: humid tropical

Rated current
32A~800A

Company
AISIKAI ELECTRIC

Design serial

Frame rating
125
250
400
630
800

Operation method
No code: direct operation
Z: manual operating mechanism
P: electric operating mechanism

Communication code
T: with communication function

Tripper code
3: electronic tripper

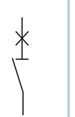
Usage
No code: power distribution
2: motor protection

Grounding function
G: with grounding function

Installation wiring method
No code: front wiring
C: front extended wiring
R: rear wiring
PF: plug in front wring
PR: plug in rear wiring
D: draw-out wiring

Note: the special code of N pole type(for 4 poles products only. The default type is B if there is no special instructions when ordering)
A: N poles does not have over-current tripper. N pole is always closed and does not break/close along with the other three poles.
B: N poles does not have over-current tripper.
C: N poles has over-current tripper. N pole breaks/closes along with the other three poles.
D: N poles has over-current tripper. N pole is always closed and does not break/close along with the other three poles.

Design marking



ASKM1E

Model definition 1:

ASKM1E-125H/P/43002/TH/R/ 63A

1. Electronic molded case circuit breaker, 125A frame, high breaking capacity, electric operating mechanism;
2. 4 poles, electronic tripper, no accessory, for motor protection;
3. humid tropical type, rear wiring;
4. rated current 63A ; setting current(0.4-1)In.

Model definition 2:

ASKM1E-250MT/3300/160A

1. normal protection molded circuit breaker, 250A frame, medium-high breaking capacity communicaton function, direct manual operation(implicit);
2. 3 poles, electronic tripper, no accessory, for power distribution, (implicit)
3. normal environment(implicit), front wiring(implicit);
4. rated current 160A; setting current(0.4-1)In.

STANDARDS

IEC60947-1	GB/T14048.1	IEC60947-4-1	GB/T14048.4
IEC60947-2	GB/T14048.2	GB/T2423.10	GB/T2423.4

ASKM1E Intelligent Electronic Molded Case Circuit Breaker

OVERVIEW

- ASKM1E intelligent electronic molded case circuit breaker(hereinafter referred to as MCCB) is a new type of circuit breaker designed and developed by our company using international advanced technology. MCCB is suitable for the distribution network of AC 50Hz, rated insulation voltage 1000V, rated voltage 400V and rated current up to 800A. MCCB can be used for infrequent switching of lines and infrequent starting of motors.
  MCCB have 3-section protection function(LSI, i.e. overload long delay protection+short-circuit short delay protection+grounding protection), 4-section protection function(LSIG, i,e. overload long delay protection+short-circuit short delay protection+short-circuit instantaneous protection+grounding protection) and under-voltage protection function. MCCB can protect circuits and power equipment from damage. Low temperature to -40℃ type circuit breaker is available.
  MCCB can distribute power and protect circuits and power equipment against faults like overload, under-voltage, short-circuit and under-voltage. The products have the characteristics of small volume, high breaking capacity, short flying arc, vibration resistant, etc. The whole series have isolation function.

CLASSIFICATION

- **Classified by the over-current tripper rated current(A)**
  Frame 125: can be divided into 3 grades (rated 32A, rated 63A, rated 125A). For each grade, the setting range Ir1=(0.4-1)In;
  Frame 250: can be divided into 2 grades (rated 160A, rated 250A). For each grade,the setting range Ir1=(0.4-1)In;
  Frame 400: 1 grade (rated 400A). The setting range Ir1=(0.4-1)In;
  Frame 630: The setting range Ir1=(0.4-1)In;
  Frame 800: The setting range Ir1=(0.4-1)In;

- **Classified by wiring method**
  Front wiring, extended front wiring, rear wiring, plug in front wring, plug in rear wiring, draw out wiring

- **Classified by accessories**
  Internal accessories:
  shunt tripper, under-voltage tripper, auxiliary tripper, alarm tripper, communication module
  External accessories:
  manual operating mechanism, electric operating mechanism

FEATURES

- Small volume, high breaking capacity, isolation function;
  Electronic adjustable tripper based on MCU microprocessor technology, precise three-section / four-section protection;
  Short-circuit protection with backup protection, there is a backup magnetic tripper to achieve rapid tripping, limiting the short-circuit current to ensure reliable breaking

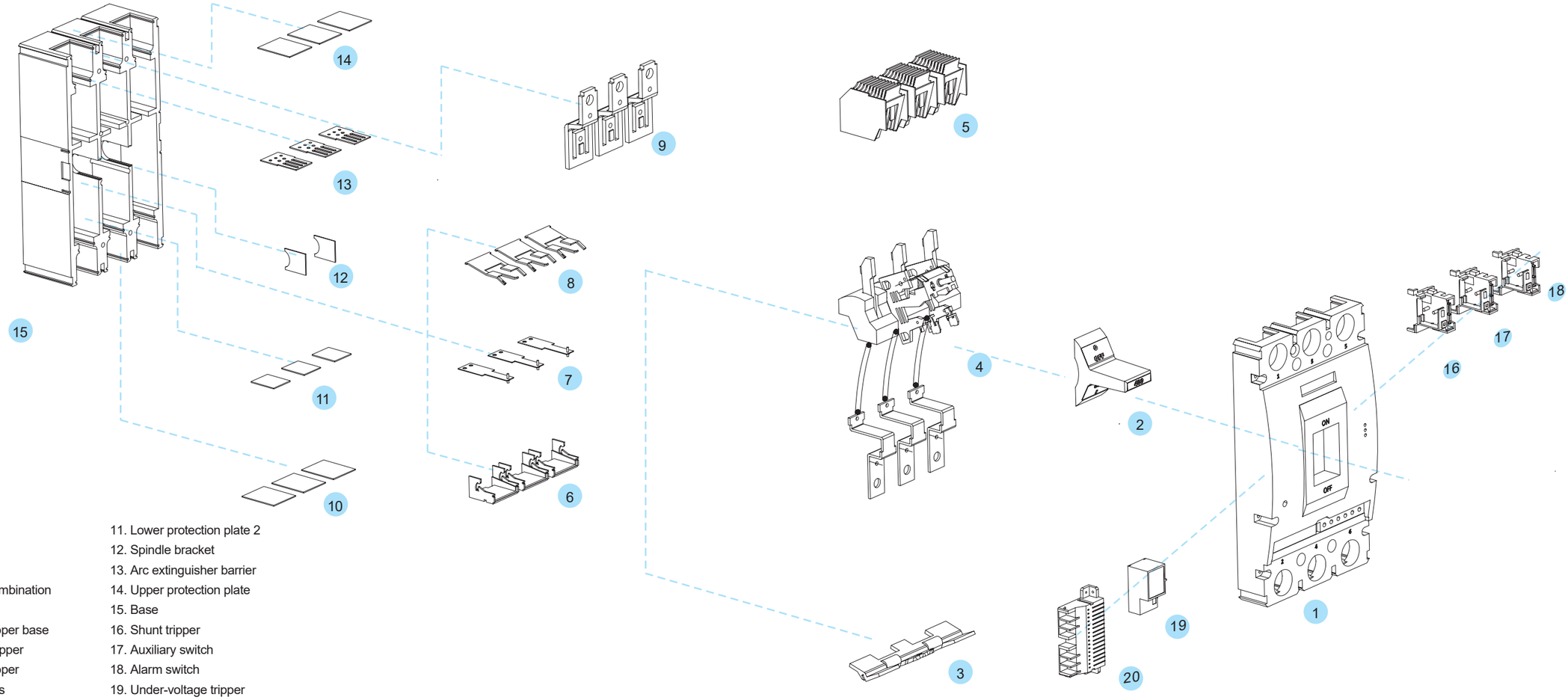
APPLICATIONS

Civil Commercial Industrial

NORMAL OPERATIONAL CONDITIONS AND INSTALLATION METHODS

Category	Requirement
Altitude	Lower than 2000 meters.
Operational temperature	Between -5℃ and +40℃.
Pollution level	Level 3.
Installation level	The installation level of circuit breaker main circuit is Ⅲ, it's Ⅱ for the auxiliary circuit and control circuit.
Installation environment	Suitable for electromagnetic environment.
Operational humidity	The relative humidity at +40℃ shall not exceed 50%. Higher relative humidity is allowed at lower temperature, e.g. 90% at 20℃ . Special measures should be taken for the condensation that occasionally occurs due to temperature changes.
Installation conditions	Humid tropical type (TH type) circuit breakers are resistant to humid air, salt spray and mildew. The circuit breaker should be installed in a place where there is no danger of explosion and no conductive dust, without substances sufficient to corrode the metal and destroy the insulation. The circuit breaker should be installed in a place where there is no rain or snow.
Installation method	Install vertically or horizontally.
Wiring method	Wiring reversely is prohibited. The only correct wiring is 1, 3, 5 connect power supply and 2, 4, 6 connect load.

OVERVIEW



1. Upper cover
2. Handle
3. Induction coil
4. Moving contacts combination
5. Arc extinguisher
6. Electromagnetic tripper base
7. Thermomagnetic tripper
8. Electromagnetic tripper
9. Upper fixed contacts
10. Lower protection plate 1
11. Lower protection plate 2
12. Spindle bracket
13. Arc extinguisher barrier
14. Upper protection plate
15. Base
16. Shunt tripper
17. Auxiliary switch
18. Alarm switch
19. Under-voltage tripper
20. Communication module

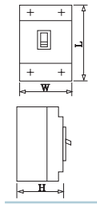
Structure overview	Contact mechanism	Working method
The molded case circuit breaker is a integral type structure, which is made of precision combination of internal parts. The base is designed with mounting positions for fixed contacts of each phase and arc extinguisher. The moving contact combination is driven by a manual handle to contact or separate from the fixed contacts to achieve manual control of the breaking/closing. When the thermal/electromagnetic protection exceeds the factory preset value, the tripper drives the moving contact combination into protection breaking. Three-phase detection transformer, monitoring circuit board and tripper are installed internally. Protection values can be adjusted on site according to usage.	The moving contacts of each phase are fixed to a base of SMC material, forming the moving contact combination. The breaking process is rapid due to the high strength spring. The arc extinguishers which are independent between each phase can extinguish arc rapidly.	The molded case circuit breaker is driven by a manual handle exposed on the panel, compressing the spring to close the circuit. When a fault occurs during normal operation, the tripper will be triggered by the thermal/electromagnetic tripper. The strong force of the spring instantly breaks the circuit, achieving over-current protection and short-circuit protection.

Protection value can be adjusted	Under-voltage tripper	Shunt tripper
According to the on-site situations, use the knobs on the front of the molded case circuit breaker to adjust the following parameters: 1. overload long delay action current and time ; 2. short-circuit short delay action current and time ; 3. short-circuit instantaneous action current; 4. pre-alarm action current.	When the supply voltage drops to the range of 70%-35% of the rated operational voltage, the under-voltage tripper can reliably break the circuit breaker. When the supply voltage is lower than 35% of the rated operational voltage, the under-voltage tripper can prevent the circuit breaker from closing. When the supply voltage is higher than 85% of the rated operational voltage, the under-voltage tripper can ensure the reliable closing of the circuit breaker. The rated value of the under-voltage is AC 50Hz, 230V, 400V.	The rated control power voltage of the shunt tripper: 50Hz，AC230V，AC400V；DC110V，220V，24V. When the voltage is 70%~110% of the rated value, it can reliably break the circuit breaker.

MAIN TECHNICAL PARAMETERS





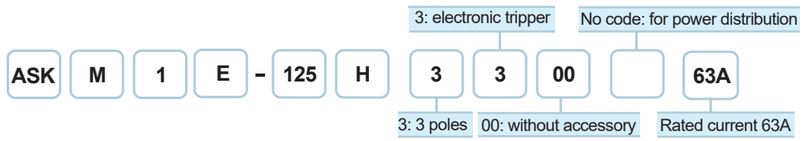
Model		ASKM1E-125			ASKM1E-250		ASKM1E-400	ASKM1E-630	ASKM1E-800
Frame rating current Inm(A)		125			250		400	630	800
Rated current In(A)		32	63	125	160	250	400	630	800
Overload long delay setting current Ir(A) Ir1=(0.4~1In)		12.5, 16, 20, 25, 32	32, 36, 40, 45, 50 55, 60, 63	63, 65, 70, 80, 85, 90, 95, 100, 125	63, 80, 90, 100 125, 140, 160	100, 125, 140, 160, 180, 200, 225, 250	200, 225, 250, 280, 315, 350, 400	400,420,440,460,480, 500,530,560,600,630	630, 640, 660, 680, 700, 720, 740, 760, 780, 800
Rated operational voltage Ue(V)		AC400V/415, AC660V/690V					AC400V/415, AC660V/690V		
Rated insulation voltage Ui(V)		1000					1000		
Rated impulse withstand voltage Uimp(V)		12000					12000		
Breaking capacity level		M	H		M	H	M	H	M	H	M	H
Ultimate short-circuit breaking capacity Icu(kA)	AC400V/415V	50	85		50	85	65	100	65	100	65	100
	AC660V/690V	20	20		20	20	20	20	20	20	20	20
Service short-circuit breaking capacity Ics(kA)	AC400V/415V	35	50		35	50	50	65	50	75	50	75
	AC660V/690V	15	15		15	15	15	15	15	15	15	15
Rated short-time withstand current Icw(kA)/1s		5			5		8	10	10
Use category		B			B		B	B	B
Arc distance(mm)		⩾ 50(0)**			⩾ 50(0)**		⩾ 100(0)**	⩾ 100(0)**	100(0)**
Electrical service life(times)		8000			8000		7500	7500	7500
Mechanical service life(times)	without maintenance	20000			20000		10000	10000	10000
	with maintenance	40000			40000		20000	20000	20000
Outline dimensions(mm)	W(3P/4P)	92/122			107/142		150/198	210/280	210/280
	L	150			165		257	280	280
	H (not including handle)	92			90		106.5	115.5	115.5

*Note: According to GB/T14048.1, the term of “service life” indicates the probability that an appliance will complete a number of operating cycles before repairing or replacing a component.

**Note: Choose the height of 6.2mm zero arc cover for 125 frame, 7.5mm for 250 frame, 9.3mm for 400 frame, 9.5mm for 800frame, realizing zero arc.

PROTECTION CHARACTERISTIC PARAMETERS-POWER DISTRIBUTION TYPE - ELECTRONIC TRIPPER-LSI 3 SECTION PROTECTION

The circuit breaker for power distribution equipped with electronic tripper has 3 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous).
The protection characteristics are factory set according to the following parameters.
Model Example:



For electronic circuit breaker, the 6 parameters (Ir1\t1\Ir2\t2\Ir3\Ir0) can be adjusted on site according to on-site requirements.

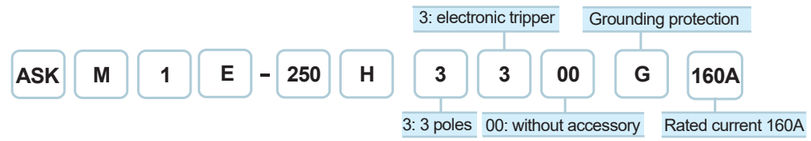
Protection Function	Frame Rating (Inm)	Rated Current In(A)	Setting Current Ir1=(0.4-1) In(A)	Action Characteristics/time
Overload long delay L	125	32	Ir1=12.5-14-16-18-20-22-25-28-30-32	Act by I²rt 1.05Ir1: no act within 2 h 1.3Ir1: act within 1h 2Ir1: t1=12s adjustable parameters: t1= off/60/80/100s(125/250) t1= off/60/100/150s(400/800)
		63	Ir1=25-28-32-36-40-45-50-56-60-63	
		125	Ir1=40-45-50-56-63-70-75-80-90-100-125	
	250	160/250	Ir1=63-80-90/100-125-140-160/180-200-225-250	
	400	400	Ir1=160-180-200-225-250-280-315-350-375-400	
	800	630	Ir1=250-280-315-350-375-400-450-500-560-630	
	800	800	Ir1=315-350-400-450-500-560-630-700-760-800	
Action allowed error				± 20%

Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current Setting Value(A)	Action Characteristics/time	
Short-circuit short delay S	125-800	32-630	Ir2=8Ir1, adjustable parameters: Ir2=2/ 2.5/ 3/ 4/ 5/ 6/ 7/ 10 Ir1	when Ir2⩽1<1.5 Ir2, inverse-time action 1.5 Ir2: t2=0.3s, adjustable parameters: t2=off/0.06/0.1/0.2s inverse-time: ± 20%	when 1.5 Ir2⩽1< Ir3, definite-time action; t2=0.06s, ±0.02s,adjustable parameters: t2=0.1s, ±0.03s t2=0.2s, ±0.04s t2=0.3s, ±0.06s
	800	800	Ir2=8Ir1, adjustable parameters: Ir2=2/ 2.5/3 /3.5 /4 /5 /6 /7 /10 Ir1		
Action allowed error			± 10%		

Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current Setting Value(A)	Action Characteristics / time
Short-circuit instantaneous I	125	32-125	Ir3=10Ir1, adjustable parameters: Ir3=(4-14)Ir1	Act instantaneously
	250/400/800	160-630		
	800	800	Ir3=10Ir1, adjustable parameters: Ir3=(4-12)Ir1	
Action allowed error			± 15%	
Neutral pole protection 4 poles C type	Whole series	32-800	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	
Overload pre-alarm	Whole series	32-800	Ir0=0.9Ir1,adjustable parameters: Ir0=0.7/0.75/0.8/0.85/0.9/0.95/1.0 Ir1	

PROTECTION CHARACTERISTIC PARAMETERS-POWER DISTRIBUTION TYPE - ELECTRONIC TRIPPER-LSIG 4 SECTION PROTECTION

The circuit breaker for power distribution equipped with electronic tripper has 4 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous, grounding protection).
The protection characteristics are factory set according to the following parameters.
Model Example:



For electronic circuit breaker, the 6 parameters (Ir1\t1\Ir2\t2\Ir3\Ig) can be adjusted on site according to on-site requirements.

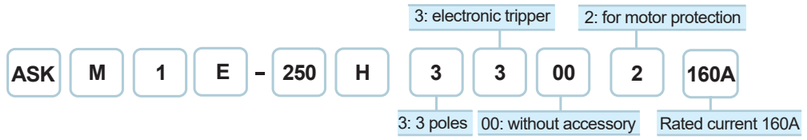
Protection Function	Frame Rating (Inm)	Rated Current In(A)	Setting Current Ir1=(0.4-1) In(A)	Action Characteristics/time
Overload long delay L	125	32	Ir1=12.5-14-16-18-20-22-25-28-30-32	Act by I²rt 1.05Ir1: no act within 2 h 1.3Ir1: act within 1h 2Ir1: t1=12s adjustable parameters: t1= off/60/80/100s(125/250) t1= off/60/100/150s(400/800)
		63	Ir1=25-28-32-36-40-45-50-56-60-63	
		125	Ir1=40-45-50-56-63-70-75-80-90-100-125	
	250	160/250	Ir1=63-80-90/100-125-140-160/180-200-225-250	
	400	400	Ir1=160-180-200-225-250-280-315-350-375-400	
	800	630	Ir1=250-280-315-350-375-400-450-500-560-630	
	800	800	Ir1=315-350-400-450-500-560-630-700-760-800	
Action allowed error				± 20%

Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current Setting Value(A)	Action Characteristics/time	
Short-circuit short delay S	125-800	32-630	Ir2=8Ir1, adjustable parameters: Ir2=2/ 2.5/ 3/ 4/ 5/ 6/ 7/ 10 Ir1	when Ir2⩽1<1.5 Ir2, inverse-time action 1.5 Ir2: t2=0.3s, adjustable parameters: t2=off/0.06/0.1/0.2s inverse-time: ± 20%	when 1.5 Ir2⩽1< Ir3, definite-time action; t2=0.06s, ±0.02s,adjustable parameters: t2=0.1s, ±0.03s t2=0.2s, ±0.04s t2=0.3s, ±0.06s
	800	800	Ir2=8Ir1, adjustable parameters: Ir2=2/ 2.5/3 /3.5 /4 /5 /6 /7 /10 Ir1		
Action allowed error			± 10%		

Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current Setting Value(A)	Action Characteristics / time
Short-circuit instantaneous I	125	32-125	Ir3=10Ir1, adjustable parameters: Ir3=(4-14)Ir1	Act instantaneously
	250/400/800	160-630		
	800	800	Ir3=10Ir1, adjustable parameters: Ir3=(4-12)Ir1	
Action allowed error			± 15%	
Neutral pole protection 4 poles C type	Whole series	32-800	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	
Grounding protection G	125	32-125	Ig=0.8 In, adjustable parameters: Ig=(0.3-0.8) In+OFF	< 0.5Ig not act, > 1.0Ig delay act tg=0.4s ± 20%, action current accuracy ± 15%
	250/400/800	160-800		

PROTECTION CHARACTERISTIC PARAMETERS-MOTOR PROTECTION TYPE - ELECTRONIC TRIPPER-LSI 3 SECTION PROTECTION

The circuit breaker for motor protection equipped with electronic tripper has 3 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous).
The protection characteristics are factory set according to the following parameters.
Model Example:



For electronic circuit breaker, the 6 parameters (Ir1\t1\Ir2\t2\Ir3\Ir0) can be adjusted on site according to on-site requirements.

Protection Function	Frame Rating (Inm)	Rated Current In(A)	Setting Current Ir1=(0.4-1) In(A)	Action Characteristics/time				
Overload long delay L	125	32	Ir1=12.5-14-16-18-20-22-25-28-30-32	Act by I²rt, t1=12s, can be adjusted to 60/80/100s				
		63	Ir1=25-28-32-36-40-45-50-56-60-63	1.05Ir1	no act within 2 h			
		125	Ir1=40-45-50-56-63-70-75-80-90-100-125	1.2Ir1	act within 1h			
				1.5Ir1	21.3s	107s	142s	178s
				2Ir1, t1	12s	60s	80s	100s
				7.2Ir1	0.93s	4.63s	6.17s	7.72s
				tripping level	–	10	10	20
	250	160/250	Ir1=63-80-90/100-125-140-160/180-200-225-250					
	400	400	Ir1=160-180-200-225-250-280-315-350-375-400	Act by I²rt, t1=12s, can be adjusted to 60/100/150s				
				1.05Ir1	no act within 2 h			
				1.2Ir1	act within 1h			
				1.5Ir1	21.3s	107s	178s	267s
				2Ir1, t1	12s	60s	100s	150s
				7.2Ir1	0.93s	4.63s	7.72s	11.6s
				tripping level	-	10	20	30
	800	630	Ir1=250-280-315-350-375-400-450-500-560-630					
Action allowed error								

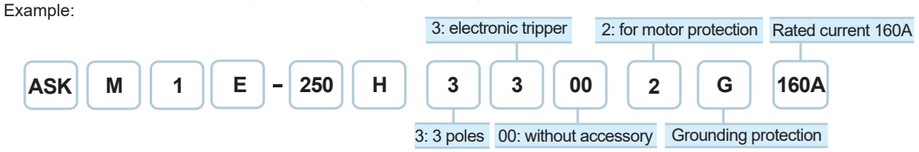
Note: there is no rated current 800A product in motor protection circuit breaker.

Protection Function	Frame Rating (Inm)	Rated Current In(A)	Setting Current Ir1=(0.4-1) In(A)	Action Characteristics/time	
Short-circuit short delay S	125-800	32-630	Ir2=8Ir1, adjustable parameters: Ir2=2/ 2.5/ 3/ 4/ 5/ 6/ 7/ 10/12 Ir1	when Ir2≤1<1.5 Ir2, inverse-time action 1.5 Ir2: t2=0.3s, adjustable parameters: t2=OFF/0.06/0.1/0.2s inverse-time: ± 20%	when 1.5 Ir2≤1< Ir3, definite-time action; t2=0.06s, ±0.02s,adjustable parameters: t2=0.1s, ±0.03s t2=0.2s, ±0.04s t2=0.3s, ±0.06s
Action allowed error			± 10%		

Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current Setting Value(A)	Action Characteristics / time
Short-circuit instantaneous I	125	32-125	Ir3=12 Ir1, adjustable parameters: Ir3=(4-14)Ir1	Act instantaneously
	250/400/800	160-630		
Action allowed error			± 15%	
Neutral pole protection 4 poles C type	Whole series	32-800	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	
Overload pre-alarm	Whole series	32-800	Ir0=0.9Ir1,adjustable parameters: Ir0=0.7/0.75/0.8/0.85/0.9/0.95/1.0 Ir1	

PROTECTION CHARACTERISTIC PARAMETERS-MOTOR PROTECTION TYPE - ELECTRONIC TRIPPER-LSIG 4 SECTION PROTECTION

The circuit breaker for motor protection equipped with electronic tripper has 4 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous, grounding protection).
The protection characteristics are factory set according to the following parameters.
Model Example:



For electronic circuit breaker, the 6 parameters (Ir1\t1\Ir2\t2\Ir3\Ig) can be adjusted on site according to on-site requirements.

Protection Function	Frame Rating (Inm)	Rated Current In(A)	Setting Current Ir1=(0.4-1) In(A)	Action Characteristics/time				
Overload long delay L	125	32	Ir1=12.5-14-16-18-20-22-25-28-30-32	Act by I²rt, t1=12s, can be adjusted to 60/80/100s				
		63	Ir1=25-28-32-36-40-45-50-56-60-63	1.05Ir1	no act within 2 h			
		125	Ir1=40-45-50-56-63-70-75-80-90-100-125	1.2Ir1	act within 1h			
				1.5Ir1	21.3s	107s	142s	178s
				2Ir1, t1	12s	60s	80s	100s
				7.2Ir1	0.93s	4.63s	6.17s	7.72s
				tripping level	–	10	10	20
	250	160/250	Ir1=63-80-90/100-125-140-160/180-200-225-250					
	400	400	Ir1=160-180-200-225-250-280-315-350-375-400	Act by I²rt, t1=12s, can be adjusted to 60/100/150s				
				1.05Ir1	no act within 2 h			
				1.2Ir1	act within 1h			
				1.5Ir1	21.3s	107s	178s	267s
				2Ir1, t1	12s	60s	100s	150s
				7.2Ir1	0.93s	4.63s	7.72s	11.6s
				tripping level	-	10	20	30
	800	630	Ir1=250-280-315-350-375-400-450-500-560-630					
Action allowed error				± 20%				

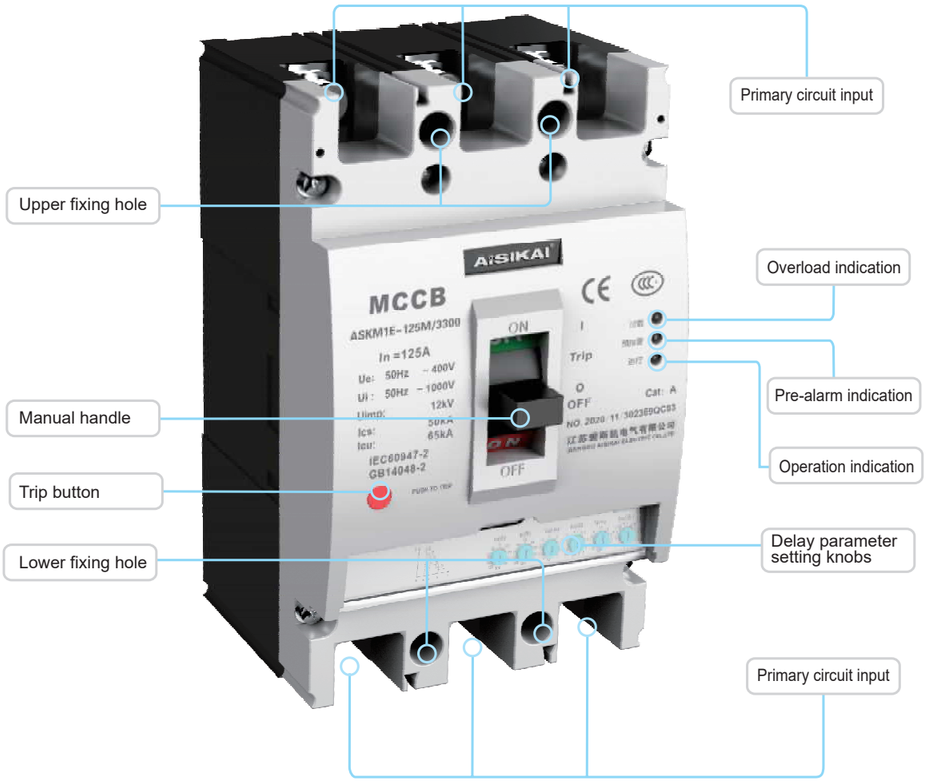
Note: there is no rated current 800A product in motor protection circuit breaker.

Protection Function	Frame Rating (Inm)	Rated Current In(A)	Setting Current Ir1=(0.4-1) In(A)	Action Characteristics/time	
Short-circuit short delay S	125-800	32-630	Ir2=8Ir1, adjustable parameters: Ir2=2/ 2.5/ 3/ 4/ 5/ 6/ 7/ 10/12 Ir1	when Ir2≤1<1.5 Ir2, inverse-time action 1.5 Ir2: t2=0.3s, adjustable parameters: t2=OFF/0.06/0.1/0.2s inverse-time: ± 20%	when 1.5 Ir2≤1< Ir3, definite-time action; t2=0.06s, ±0.02s,adjustable parameters: t2=0.1s, ±0.03s t2=0.2s, ±0.04s t2=0.3s, ±0.06s
Action allowed error			± 10%		

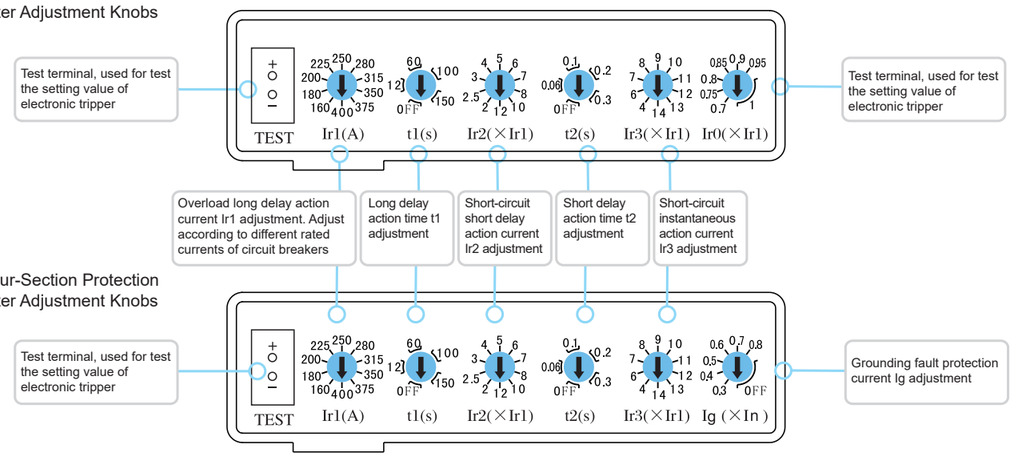
Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current Setting Value(A)	Action Characteristics / time
Short-circuit instantaneous I	125	32-125	Ir3=10Ir1, adjustable parameters: Ir3=(4-14)Ir1	Act instantaneously
	250/400/800	160-630		
Action allowed error			± 15%	
Neutral pole protection 4 poles C type	Whole series	32-800	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	
Grounding protection G	125	32-125	Ig=0.8 In, adjustable parameters: Ig=(0.3-0.8) In+OFF	< 0.5Ig not act, > 1.0Ig delay act tg=0.4s ± 20%, action current accuracy ± 15%
	250/400/800	160-800		

INDICATION STRUCTURE INTRODUCTION

Circuit Breaker Front Indication



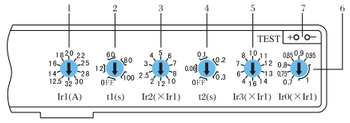
LSI Three-Section Protection Parameter Adjustment Knobs



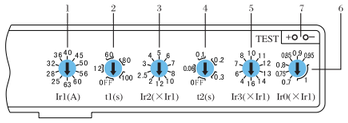
LSIG Four-Section Protection Parameter Adjustment Knobs

ELECTRONIC OVER-CURRENT TRIPPER SETTING VALUE

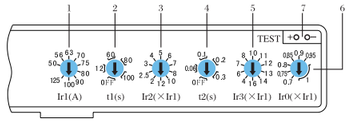
ASKM1E-125, In=32A electronic over-current tripper



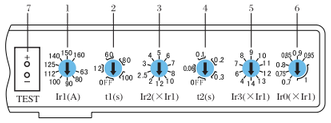
ASKM1E-125, In=63A electronic over-current tripper



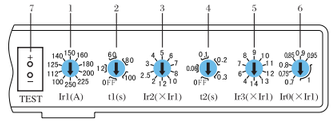
ASKM1E-125, In=125A electronic over-current tripper



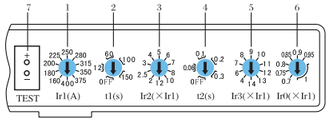
ASKM1E-250, In=160A electronic over-current tripper



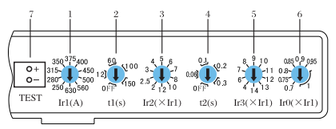
ASKM1E-250, In=250A electronic over-current tripper



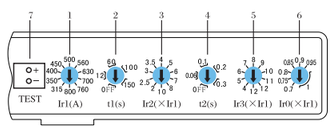
ASKM1E-400, In=400A electronic over-current tripper



ASKM1E-630, In=630A electronic over-current tripper

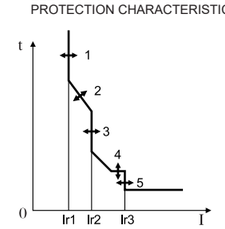


ASKM1E-800, In=800A electronic over-current tripper



1.Overload long delay action current Ir1 adjustment. Adjust according to different rated currents of circuit breakers. Adjustable in 10 levels.
2.Long delay action time t1 adjustment. Adjustable in 4 levels.
3.Short-circuit short delay action current Ir2 adjustment. Adjustable in 10 levels.
4.Short delay action time t2 adjustment. Adjustable in 4 levels.
5.Short-circuit instantaneous action current Ir3 adjustment. Adjustable in 9 or 10 levels.
6.Overload pre-alarm action current. Adjustable in 7 levels.
7.Test terminal. Connect DC12V test power to check controller tripping function.

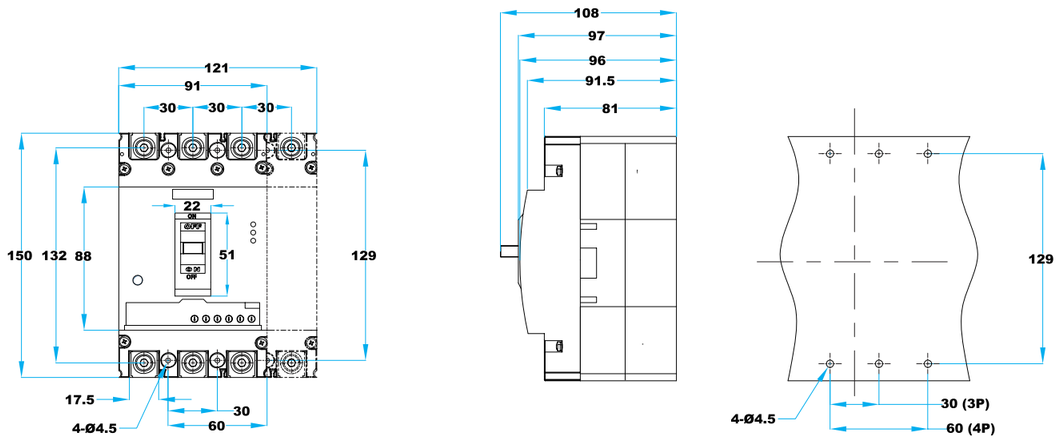
ELECTRONIC OVER-CURRENT TRIPPER PROTECTION CHARACTERISTIC CURVE



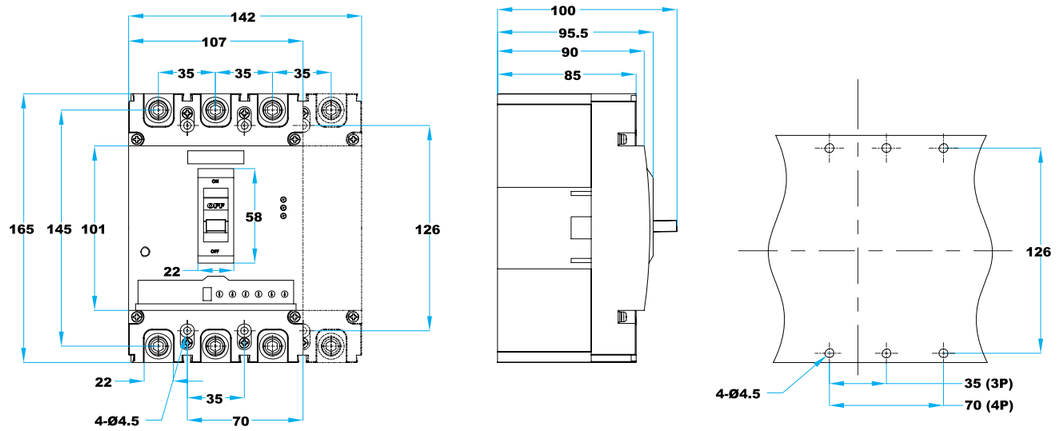
OUTLINE AND INSTALLATION DIMENSIONS

Front wiring

ASKM1E -125 Frame

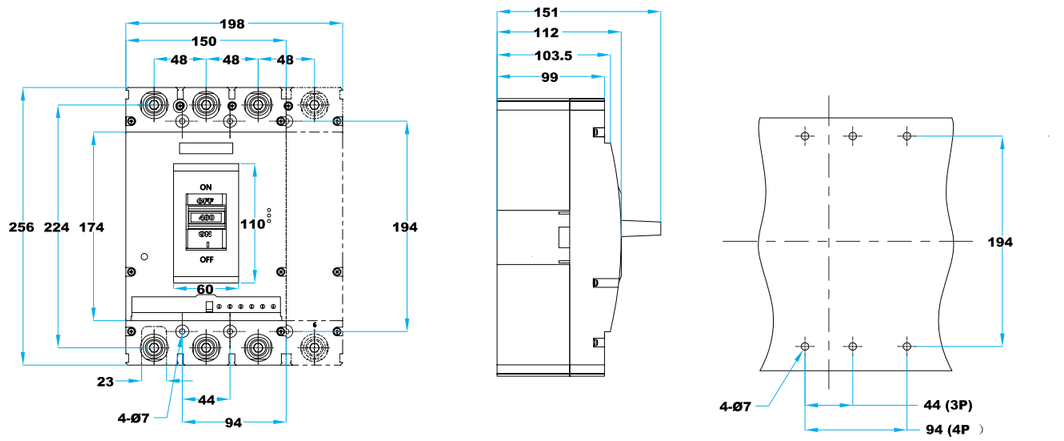


ASKM1E -250 Frame

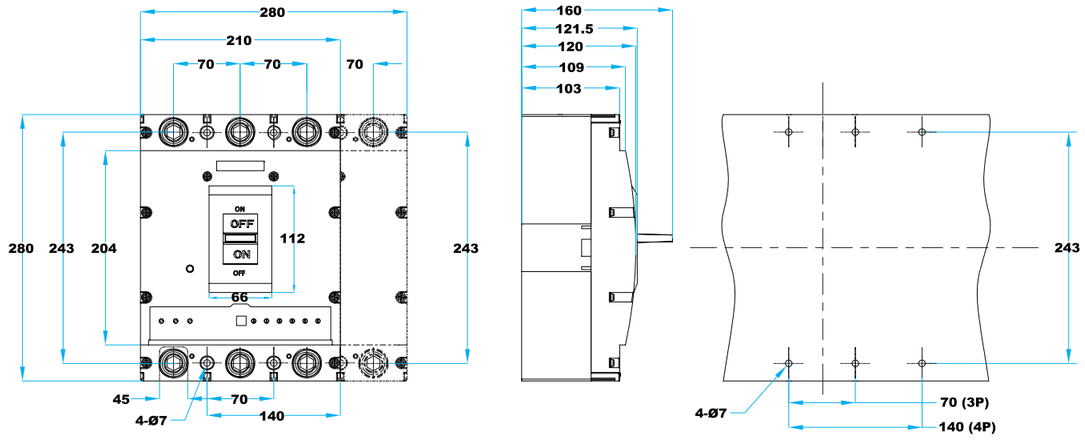


Front wiring

ASKM1E -400 Frame



ASKM1E -630/800 Frame



OUTLINE AND INSTALLATION DIMENSIONS

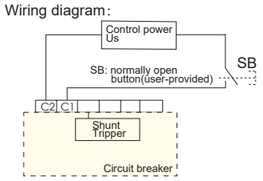
The ASKM1E electronic circuit breaker has five basic accessory modules available for optional installation inside the switch.

Shunt Tripper MODEL: FJ-FT-ASKM1E

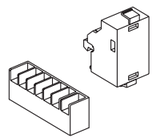
Usage:
Shunt tripper is used to remotely control the breaking of the circuit breaker. It is instantaneous working system. Long time energizing is prohibited. Each power-on time is recommended to be no more than 1s.
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable outlet wire method: terminal type

Control power: Us=(70%-110%)Ue
Frequency: 50/60 Hz Us=(70%-110%)Ue
Ue: rated operational voltage of shunt tripper
Default voltage: AC 220V
Optional voltage:AC 380V DC110V DC220V

Wiring diagram:



Outline:

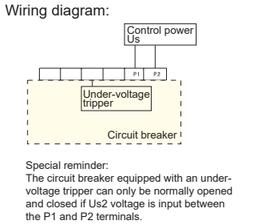


Under-voltage tripper MODEL: FJ-QT-ASKM1E

Usage:
Under-voltage tripper is used for low voltage protection of power lines and power-using equipment. It ensures that load equipment is not damaged by a malfunction caused by a voltage below the rated value.
Standard outlet wire method:
Module type
(Control module is installed on the side of the circuit breaker, and the under-voltage tripper is installed inside the breaker)

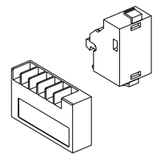
1.Control power voltage Us1: when Us1=(35%-70%)Ue, the under-voltage tripper can reliably break circuit breaker.
2.Control power voltage Us2: when Us2:Us2=(85%-110%)Ue, the circuit breaker can close normally.
3.Control power voltage Us3: when Us3≤35%Ue, the under-voltage tripper can prevent circuit breaker from closing.
Frequency: 50/60Hz
Ue: rated operational voltage
Standard voltage AC230V
Optional voltage AC380V AC110V

Wiring diagram:



Special reminder:
The circuit breaker equipped with an under-voltage tripper can only be normally opened and closed if Us2 voltage is input between the P1 and P2 terminals.

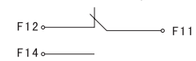
Outline:



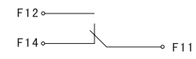
Auxiliary switch MODEL: FJ-FC-ASKM1E

Usage:
It is used to provide the breaking and closing status signal of the circuit breaker, helping the secondary control circuit to realize the automatic control function.
1 normally open 1 normally closed: 1NO1NC
2 normally open 2 normally closed: 2NO2NC
4 normally open 4 normally closed: 4NO4NC
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable outlet wire method: terminal type

When circuit breaker is at position of open or free trip

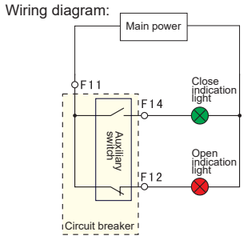


When circuit breaker is at closing position

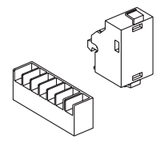


Conventional thermal current: Ith=3A

Wiring diagram:



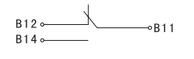
Outline:



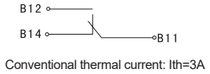
Alarm switch MODEL: FJ-BC-ASKM1E

Usage:
It is used to provide the overload, short-circuit(free trip) and under-voltage fault(fault trip) status signal of the circuit breaker, helping the secondary control circuit to realize the automatic control function.
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable outlet wire method: terminal type

When circuit breaker is at position of open/closed

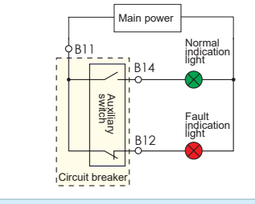


When circuit breaker is at position of free trip&fault trip

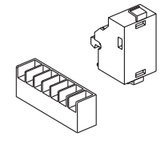


Conventional thermal current: Ith=3A

Wiring diagram:



Outline:

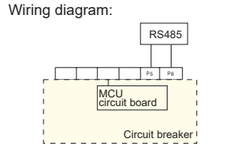


Communication module MODEL: FJ-TXMK-ASKM1E

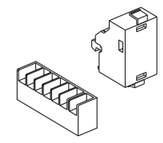
Usage:
By installing communication module, the circuit breaker has communication function, remote communication, remote measurement, and data can be uploaded in real time.
Standard outlet wire type: terminal

Communication protocol: MODBUS-RTU
Communication interface: RS485
Communication baud rate: 9600

Wiring diagram:



Outline:



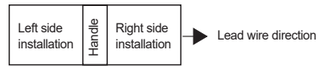
INTERNAL ACCESSORIES CODE TABLE

Depending on the application requirements, one or more base modules can be installed inside the switch.
Each module has an individual code. Different modules can be combined and have a new accessory code.

Internal accessories icons

☐ Alarm switch ● Shunt tripper
■ Auxiliary switch ○ under-voltage tripper

Internal accessories installation position schematic diagram



Code	Accessory	ASKM1E-125/250		ASKM1E-400		ASKM1E-630/800
		3P	4P	3P	4P	3P/4P
00	No accessory					
08	Alarm switch	◂□	◂□	◂□	◂□	◂□
10	Shunt tripper	◂●	◂●	◂●	◂●	◂●
20	Auxiliary switch(1NO1NC)	◂■	◂■			
	Auxiliary switch(2NO2NC)			◂■	◂■	◂■
02	Auxiliary switch(2NO2NC)	◂■	◂■			
30	Under-voltage tripper	◂○	◂○	◂○	◂○	◂○
40	Shunt tripper+Auxiliary switch(1NO1NC)	◂■●	◂●■			
	Shunt tripper+Auxiliary switch(2NO2NC)			◂■●▸	◂●■▸	◂●■▸
12	Shunt tripper+Auxiliary switch(2NO2NC)	◂■●▸	◂●■▸			
50	Shunt tripper+under-voltage tripper	◂○●▸	◂○●▸	◂○●▸	◂○●▸	◂○●▸
60	2 sets of auxiliary switches(2NO2NC)		◂■■▸			
	2 sets of auxiliary switches(4NO4NC)				◂■■▸	◂■■▸
22	2 sets of auxiliary switches(3NO3NC)		◂■■▸			
23	2 sets of auxiliary switches(4NO4NC)		◂■■▸			
70	Under-voltage tripper+Auxiliary switch(1NO1NC)		◂○■▸			
	Under-voltage tripper+Auxiliary switch(2NO2NC)				◂○■▸	◂○■▸
32	Under-voltage tripper+Auxiliary switch(2NO2NC)		◂○■▸			
18	Shunt tripper+Alarm switch	◂□●	◂●□▸	◂□●▸	◂□●▸	◂□●▸
28	Auxiliary switch(1NO1NC)+Alarm switch	◂■□	◂■□	◂■□	◂■□	◂■□
	Auxiliary switch(2NO2NC)+Alarm switch			can customize	can customize	can customize
38	Under-voltage tripper+Alarm switch		◂○□▸			
48	Shunt tripper+Auxiliary switch(1NO1NC) +Alarm switch	◂■□●	◂●■□▸	◂■□●▸	◂■□●▸	◂■□●▸
	Shunt tripper+Auxiliary switch(2NO2NC) +Alarm switch			can customize	can customize	can customize
68	2 sets of auxiliary switches(2NO2NC) +Alarm switch		◂■■□▸			
	2 sets of auxiliary switches(4NO4NC) +Alarm switch				can customize	can customize
05	2 sets of auxiliary switches(3NO3NC) +Alarm switch		◂■■□▸		◂■■□▸	◂■■□●
78	Under-voltage tripper+Auxiliary switch(1NO1NC) +Alarm switch		◂○■□▸			
	Under-voltage tripper+Auxiliary switch(2NO2NC) +Alarm switch					

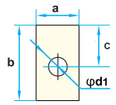
External Optional Accessory- Plug-in Front Wiring Base

Optional plug-in front wiring base is available for ASKM1E electronic circuit breaker.

Plug-in front wiring base(PF) MODEL: FJ-BQDZ-ASKM1E

Usage:
The plug-in front wiring base is mounted on the back of the molded case circuit breaker, and is integrated with the breaker through conductive copper posts and fastening bolts. In the event of a serious circuit breaker failure, the circuit breaker can be quickly repaired and replaced without removing the primary cable.

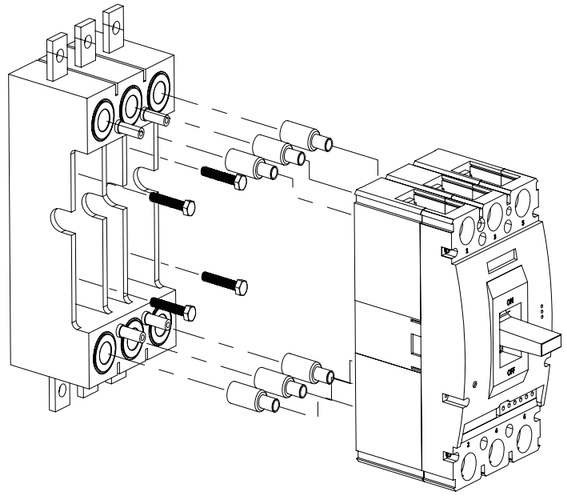
Copper bars dimensions(mm)



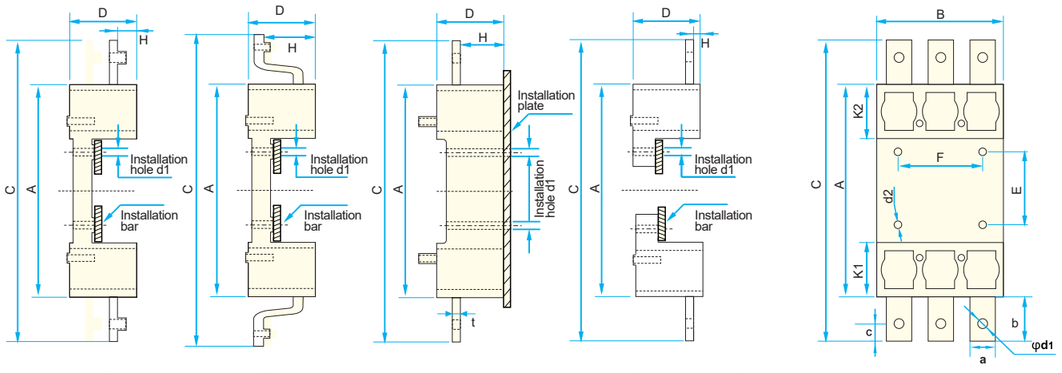
125-800 Frame

Frame	a	b	c	d1
125	19	21	11	6.5
250	22	36	15	8.5
400	25	37	15.5	11
630/800	35	50	15.5	13

Installation schematic diagram:



Outline and installation dimensions:



125 250 400 630/800(Separate type)

Frame	Outline and installation opening dimensions										
	A	B	C	D	E	F	H	K1	K2	d2	t
125A	172	96	214	50	60	66	15	38	38	7	3
250A	183	110	254	51.5	64	70	46	44	44	7	3
400A	276	150	352	80	135	115	31	—	—	7	6
630/800A	304	210	404	87	144	91	13	62	62	11	8

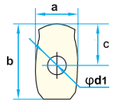
External Optional Accessory- Plug-in Rear Wiring Base

Optional plug-in rear wiring base is available for ASKM1E electronic circuit breaker.

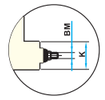
Plug-in rear wiring base(PF) MODEL: FJ-BHDZ-ASKM1E

Usage:
The plug-in rear wiring base is mounted on the back of the molded case circuit breaker, and is integrated with the breaker through conductive copper posts and fastening bolts. In the event of a serious circuit breaker failure, the circuit breaker can be quickly repaired and replaced without removing the primary cable.

Copper bars dimensions(mm)



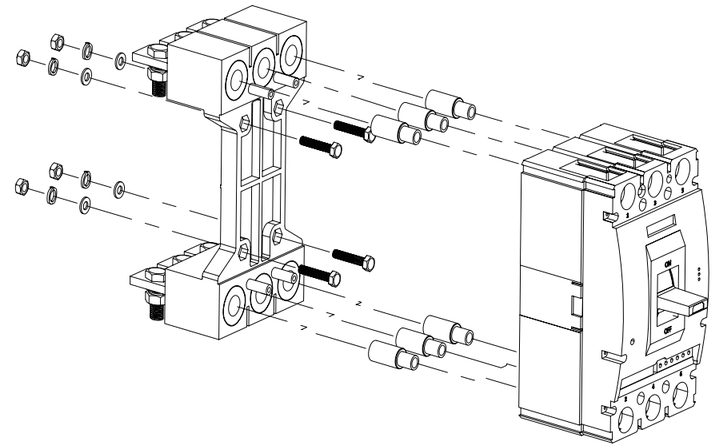
125-400 Frame



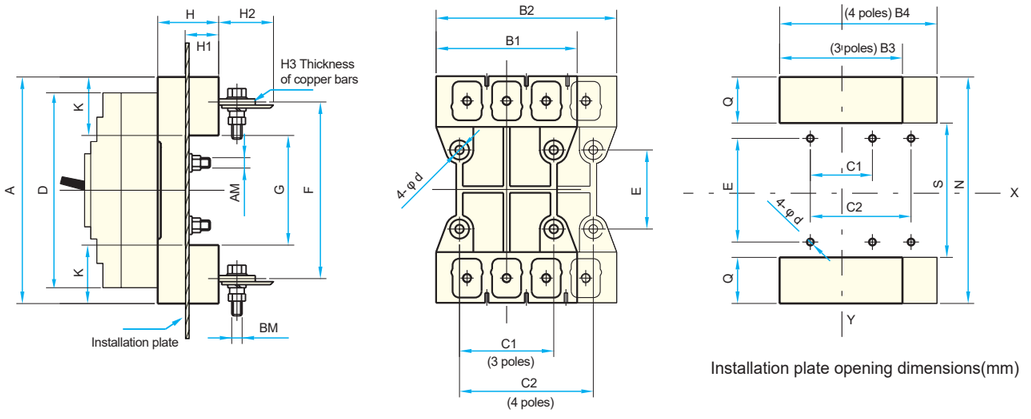
800 Frame

Frame	a	b	c	d1
125	18	34	18	8
250	21	36	20	8
400	30	43	22	12
630/800	BM=M14(Bolt outlet wire)			

Installation schematic diagram:



Outline and installation dimensions:



Installation plate opening dimensions(mm)

Frame	Outline and installation dimensions(mm)														Opening dimensions(mm)				
	A	B1	B2	C1	C2	D	E	F	G	K	H	H1	H2	H3	N	S	Q	B3	B4
125A	168	91	125	60	90	150	56	132	92	38	50	33	35	3.5	178	82	48	101	135
250A	186	107	145	70	105	165	54	145	94	46	50	33	37	5.5	196	84	56	117	155
400A	280	149	200	60	108	257	129	224	170	55	60	38	46	8	290	160	65	159	210
630/800A	305	210	280	90	162	280	146	243	181	62	87	60	16	/	315	171	72	220	290

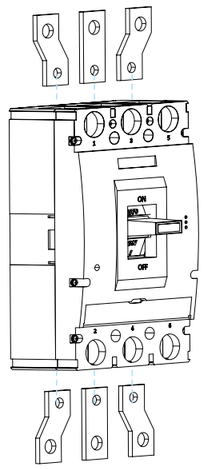
External Optional Accessory- Front Extended Copper Bars

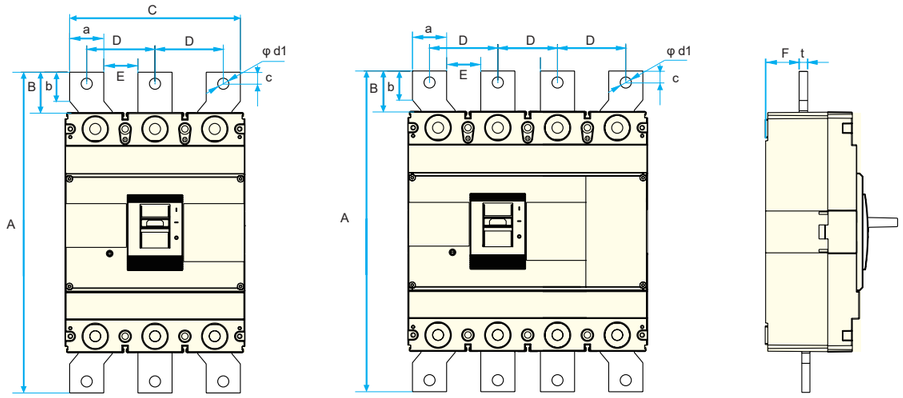
Optional front extended wiring is available for ASKM1E electronic circuit breaker.

Front extended copper bars(C)	MODEL: FJ-BQDZ-ASKM1E

Usage:
The front extended copper bars are installed at the inlet copper bars and outlet copper bars of the molded case circuit breaker, which expands the primary cable wiring space and facilitates the quick installation of cables on site.

Installation schematic diagram:





Fromm	Outline and installation opening dimensions										
	A	B	C	D	E	F	a	b	c	d1	t
125A	197	23	93	39	24	28.5	15	15	7.5	8.5	4
250A	245	40	104	42	22	22.6	20	23	9	9	5
400A	340	41	148	60	32	38	28	25	15	14	6
630/800A	376	48	200	80	40	39	40	34	14	13	10

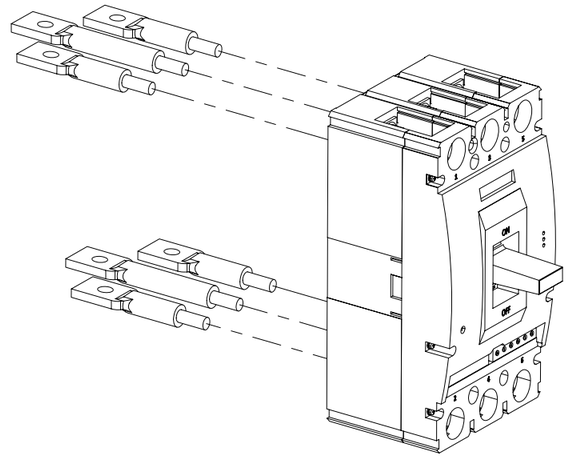
External Optional Accessory- Rear Copper Bars

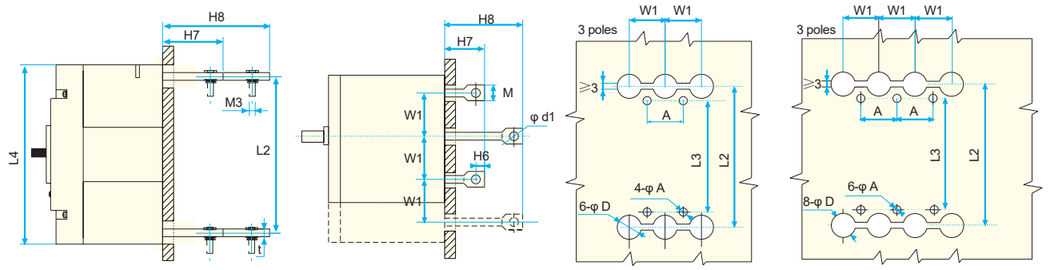
Optional rear wiring is available for ASKM1E electronic circuit breaker.

Rear wiring(R)	MODEL: FJ-BHJX-ASKM1E

Usage:
The rear copper bars are installed at the inlet copper bars and outlet copper bars of the molded case circuit breaker, which can change the circuit breaker vertical front wiring to horizontal rear wiring, isolating the primary cable behind the mounting board and improving the safety factor of the electrical cabinet.

Installation schematic diagram:





	125A	250A	400A	630/800A
A	30	35	44	70
φ A	4.5	4.5	7	7
φ D	10	12	33	37
L2	132	144	224	243
L3	129	126	194	243
L4	150	165	257	280
W1	30	35	48	70
φ d1	8	8	12	16
M	19	19	31	34
t	4.5	4.5	7.5	10.5
H6	14	14	21	22
H7	53.5	60	55	73
H8	85.5	92	90	112

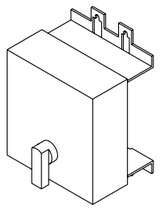
External Optional Accessory-Electric Operating Mechanism

Optional CD1 type or CD2 type electric operating mechanism is available for ASKM1E electronic circuit breaker.

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1-ASKM1E-250

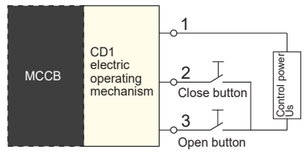
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally driven by electromagnet, it has the advantage of low starting current.

Applicable frame: 125, 250
Standard wiring method: Lead wire type

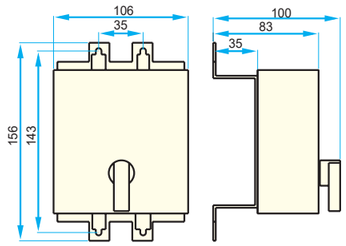


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V

Wiring diagram:



Installation schematic diagram:

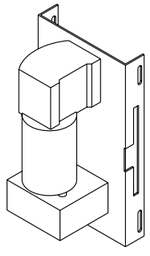


Applicable frame: 125, 250

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1-ASKM1-400

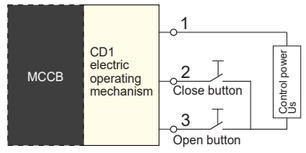
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally driven by motor, it has the advantage of low starting current.

Applicable frame: 400, 630, 800
Standard wiring method: Terminal type

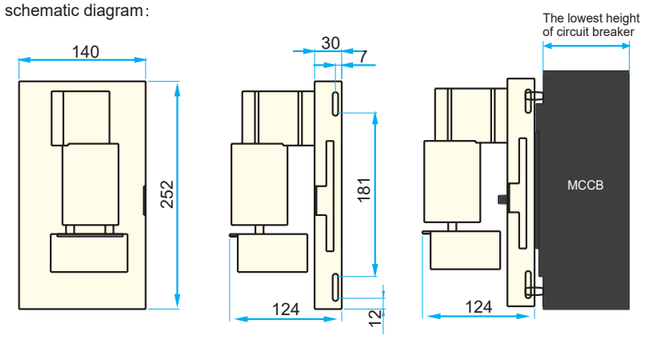


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V
DC 220V

Wiring diagram:



Installation schematic diagram:

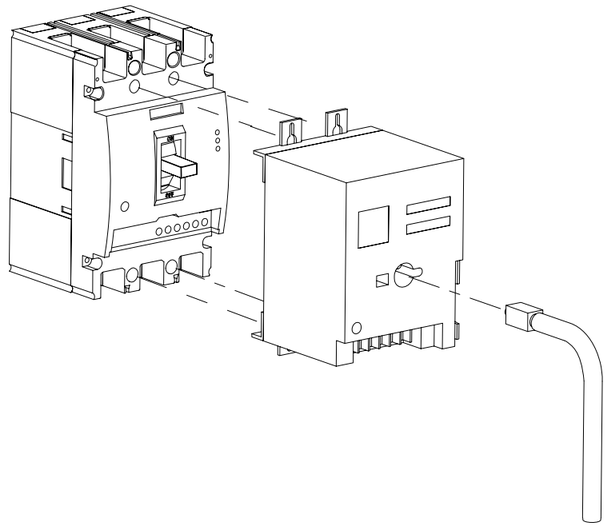


Electric Operating Mechanism- CD2 — MODEL: FJ-DC/CD2-ASKM1E

Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally driven by permanent magnet motor, it has the advantage of low starting current and wide control voltage range.

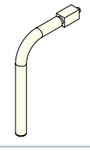
Applicable frame: 125-800 whole series
Standard wiring method: Terminal type

Wiring diagram:



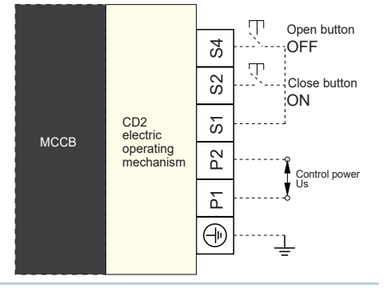
Manual handle:
frame 63, 125, 250

frame 400, 630, 800

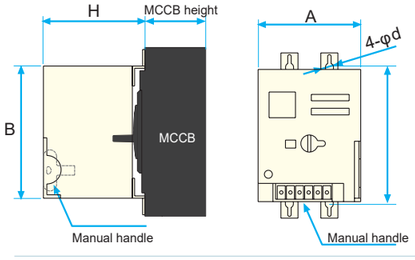


Control power: Us=(70%-110%) Ue
Frequency: 50Hz
Ue:rated operational voltage of shunt tripper
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V
DC 220V

Wiring diagram:



Installation schematic diagram:



Model	Outline and installation dimensions(mm)				Action current (A)	Mechanical service life	Motor power (w)
	A	B	H	4-φd			
ASKM1E-125	90	116	94	4.5	⩽0.5	14000	14
ASKM1E-250	90	116	90	4.5	⩽0.5	14000	14
ASKM1E-400	130	176	143	6.5	⩽2	5000	35
ASKM1E-630,800	130	176	147	6.5	⩽2	5000	35

External Optional Accessory-Manual Operating Mechanism

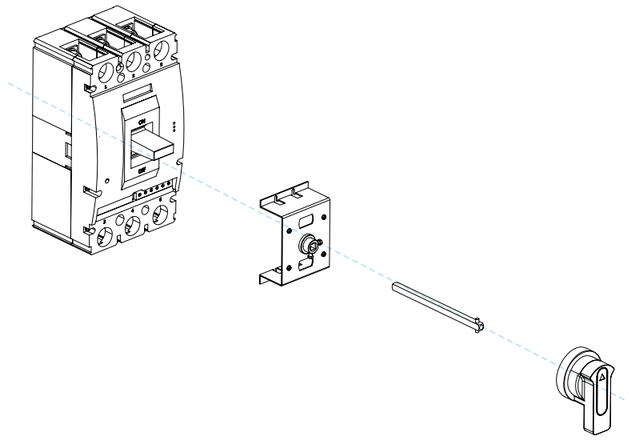
Optional manual operating mechanism is available for ASKM1E electronic circuit breaker.

Manual operating mechanism	MODEL: FJ-SC- ASKM1E

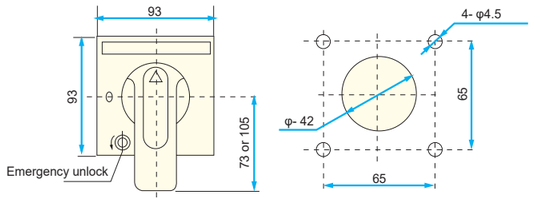
Usage:
The manual operating mechanism is installed on the front of the circuit breaker. Through rotating handle, it realizes the requirement of operation on the panels of drawer cabinet, distribution cabinet, power box, etc. It also provides the function of interlocking between the circuit breaker and the cabinet door panel.

Features:
1.When the circuit breaker is in the closed state, the manual operating mechanism is interlocked with the door plate and the cabinet door cannot be opened.
2.In case of failure when operating handle or manual operating mechanism in the closed state, the cabinet door can be opened by the emergency unlocking device on the operating handle.
3.For the manual handles matching with the manual operating mechanisms corresponding to different frames, they have the same openings on door plates.
4.The length of standard square shaft is 150mm. We can also provide special specification.

Wiring diagram:

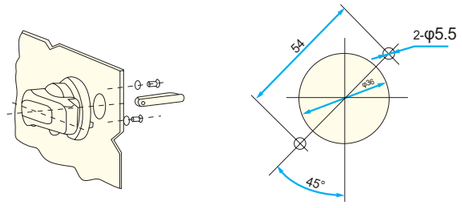


Square handle dimensions: type F



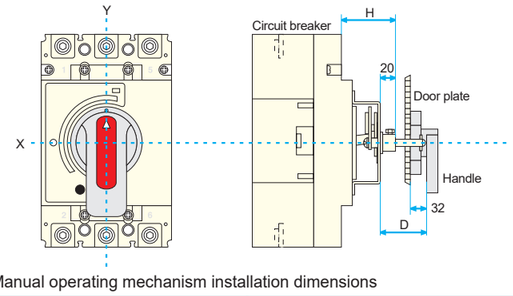
Square handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

Round handle dimensions: type A(default)



Round handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

Manual operating mechanism installation schematic diagram



Attention:
The manual operating mechanism used with our molded case circuit breaker must be ordered from our company to ensure the quality of the product. If the user purchases other brands, our company will not bear any adverse consequence occurring after the installation.

Manual operating mechanism installation dimensions

Model	ASKM1E-125	ASKM1E-250	ASKM1E-400	ASKM1E-630/800
Installation dimensions(H)	54	54	84	76
Operating handle to the center of circuit breaker Y value	0	0	0	-20

RATED CURRENT AND WIRE CROSS SECTION AREA

Connection Wire Reference Cross Section Area

Rated current(A)	10	16, 20	25	32	40, 50	63	80	100	125, 140	160	180, 200, 225	250	315, 350	400
Wire cross section area (mm²)	1.5	2.5	4	6	10	16	25	35	50	70	95	120	185	240

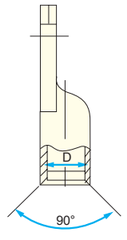
Rated current(A)	Cable		Copper bars	
	Cross section area(mm²)	Quantity	Size(mm×mm)	Quantity
500	150	2	30x5	2
630	185	2	40x5	2
700/800	240	2	50x5	2

MODEL OF WIRING TERMINALS

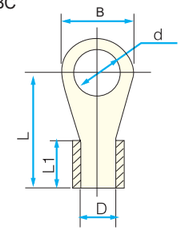
JGC\JBC wiring terminal reference dimension

JGC

JGC

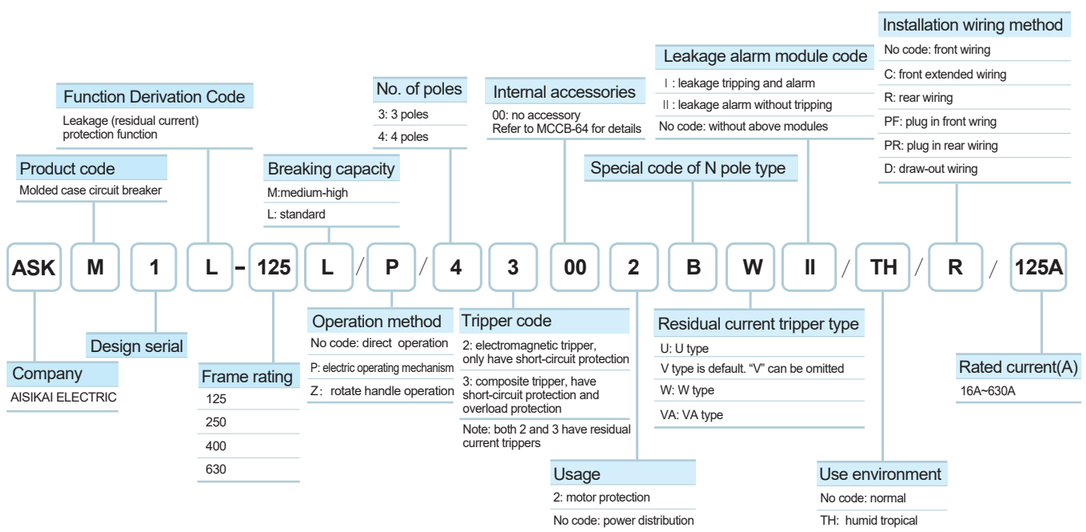


JBC



Model	Current(A)	Wire cross section area (mm²)	Terminal model	B	L	L1	D	d
125	10, 16, 20	2.5	JBC2.5-8	15	24.5	8.5	φ2.6	φ8.2
	25	4	JBC4-8	13.4	20.4	9.2	φ2.8	φ8.2
	32	6	JBC6-8	15	24.5	10	φ3.5	φ8.2
	40, 50	10	JBC10-8	15	24.5	11	φ4.5	φ8.2
	63	16	JBC16-8	12.5	41	33.5	φ6	φ8.2
	80	25	JGC25-8	14	46	38.5	φ7	φ8.2
	100	35	JGC35-8	15.5	52	44.5	φ8	φ8.2
	100	35	JGC35-8	15.5	52	44.5	φ8	φ8.2
250	125, 140	50	JGC50-8	17	54	45	φ10	φ8.2
	160	70	JGC70-8	21.6	61	52	φ11	φ8.2
	100	35	JGC35-8	15.5	52	44.5	φ8	φ8.2
	125, 140	50	JGC50-8	17	54	45	φ10	φ8.2
	160	70	JGC70-8	21.6	61	52	φ11	φ8.2
	180, 200, 225	95	JGC95-8	22	66	57	φ13	φ8.2
	250	95	JGC95-8	22	66	57	φ13	φ8.2

ASKM1L THERMOMAGNETIC LEAKAGE PROTECTION MOLDED CASE CIRCUIT BREAKER SELECTION TABLE



Note: the special code of N pole type(for 4 poles products only. The default type is B if there is no special instructions when ordering)

A: N poles does not have over-current tripper. N pole is always closed and does not break/close along with the other three poles.

B: N poles does not have over-current tripper. N pole breaks/closes along with the other three poles. N pole is equipped with "first close, then split" function as standard.

C: N poles has over-current tripper. N pole breaks/closes along with the other three poles. N pole is equipped with "first close, then split" function as standard.

D: N poles has over-current tripper. N pole is always closed and does not break/close along with the other three poles.

Design marking

ASKM1L

Model definition 1:

ASKM1L-125LP/4300/2BWIITH/R/ 125A

1. leakage protection molded case circuit breaker, 125A frame, standard breaking capacity, electric operation;
2. 4 poles, composite tripper, no accessory;
3. for motor protection. N poles does not have over-current tripper. W type residual current tripper, leakage alarm without tripping (leakage alarm and tripping is optional), humid tropical type;
4. rear wiring, rated current 125A

Model definition 2:

ASKM1L-250M/3300/ 250A

1. leakage protection molded circuit breaker, 250A frame, medium-high breaking capacity, direct manual operation (implicit);
2. 3 poles, composite tripper, no accessory for power distribution, (implicit);
3. For power distribution. N poles does not have over-current tripper. N pole is always closed and does not break/close along with the other three poles;
4. V type residual current tripper, no leakage alarm module, normal environment(implicit);
5. front wiring(implicit), rated current 250A

STANDARDS

IEC60947-1	GB/T14048.1	IEC60947-4-1	GB/T14048.4
IEC60947-2	GB/T14048.2	GB/T2423.10	GB/T2423.4

ASKM1L THERMOMAGNETIC LEAKAGE PROTECTION MOLDED CASE CIRCUIT BREAKER

OVERVIEW

- ASKM1L thermomagnetic leakage protection intelligent molded case circuit breaker(hereinafter referred to as MCCB) is a new type of circuit breaker designed and developed by our company using international advanced technology. MCCB is suitable for the distribution network of AC 50Hz, rated insulation voltage 1000V, rated voltage 400V and rated current up to 630A. MCCB can be used for infrequent switching of lines and infrequent starting of motors. MCCB has overload, short-circuit and under-voltage protection, can protect the line and power supply equipment from damage. Protection can also be provided against fire hazards that may be caused by long-standing ground faults that cannot be detected by over-current protection.

CLASSIFICATION

- **Classified by the rated current(A)**
  Frame 125: 10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125A
  Frame 250: 100, 125, 140, 160, 180, 200, 250A
  Frame 400: 225, 250, 315, 350, 400A
  Frame 630: 400, 500, 630A
- **Classified by wiring method**
  Front wiring, extended front wiring, rear wiring,
  plug in front wring, plug in rear wiring, draw out wiring
- **Classified by over-current tripper type**
  Composite: thermal+electromagnetic tripper(overload protection and short-circuit protection); thermomagnetic: electromagnetic tripper(short-circuit protection)
- **Classified by accessories**
  Internal accessories: shunt tripper, under-voltage tripper, auxiliary tripper, alarm tripper
  External accessories: manual operating mechanism, electric operating mechanism

FEATURES

- **Residual Current 3 Phases Protection**: The leakage protection modules of conventional circuit breakers with residual current protection use the operational power of two-phase sampling. Our circuit breakers use three-phase. If any phase is missing, the circuit breaker leakage protection module can still work normally.
  Adjustable Parameters: Rated residual action current Inn and the maximum breaking time are adjustable according to the actual situation
  Leakage Alarm Function Is Available
  Comply with EMC requirements: IEC60947-2, GB14048.2[Appendix B]
  High interchangeability: Same outline and volume as ASKM1 circuit breaker of the same frame

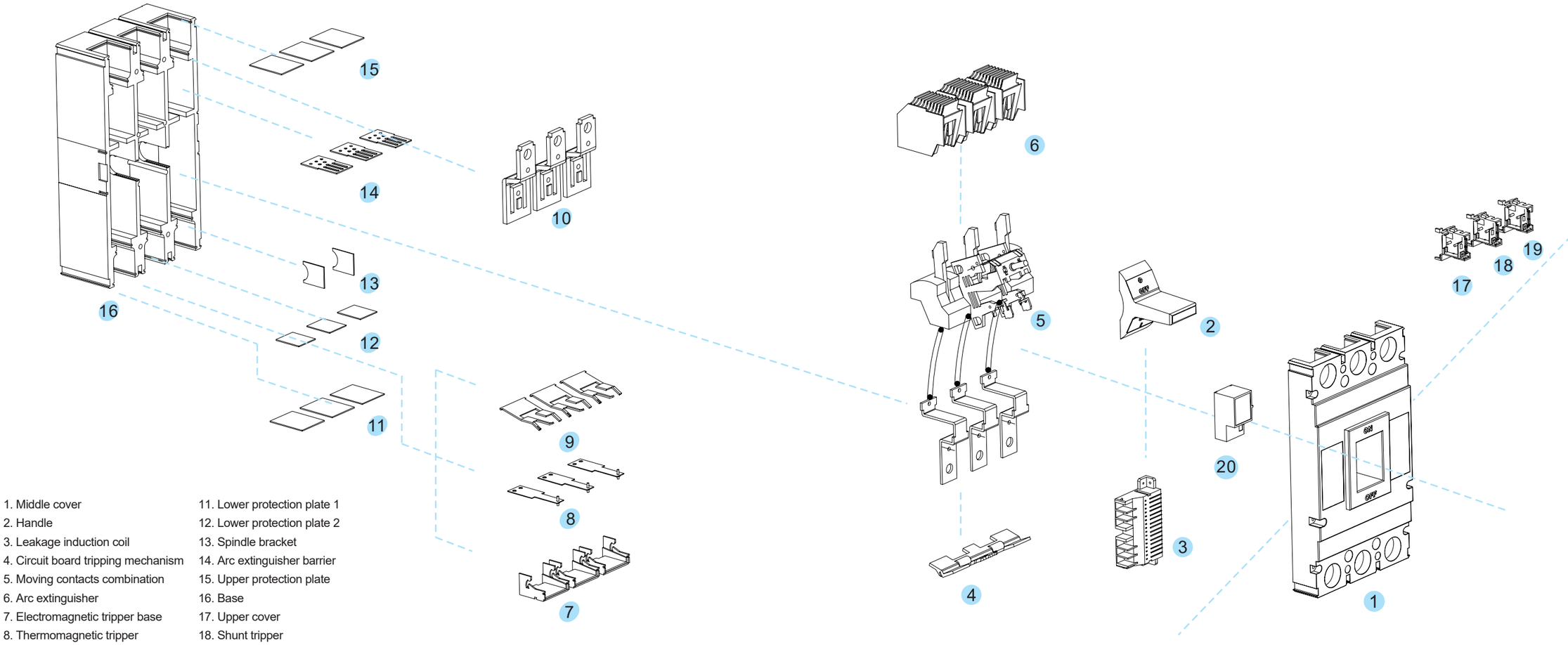
APPLICATIONS

Civil Commercial Industrial

NORMAL OPERATIONAL CONDITIONS AND INSTALLATION METHODS

Category	Requirement
Altitude	Lower than 2000 meters.
Operational temperature	Between -5℃ and +40℃. The average value in 24 hours does not exceed +35℃.
Pollution level	Level 3.
Installation level	The installation level of circuit breaker main circuit is Ⅲ, it's Ⅱ for the auxiliary circuit and control circuit which do not connect with the main circuit.
Operational humidity	The relative humidity at +40℃ shall not exceed 50%. Higher relative humidity is allowed at lower temperature. The average maximum relative humidity is 90% in the most humid month and this month has the average minimum temperature of +25℃. The condensation that occurs on the surface of the product due to temperature changes should also be taken into consideration.
Installation conditions	Use environment should be without strong vibration and shock. The magnetic field near the installation site should not exceed 5 times the geomagnetic field in any direction. The leakage protection circuit breaker normally should be installed vertically.
Installation method	Install vertically or horizontally.
Wiring method	Wiring reversely is prohibited. The only correct wiring is 1, 3, 5 connect power supply and 2, 4, 6 connect load.

OVERVIEW



1. Middle cover
2. Handle
3. Leakage induction coil
4. Circuit board tripping mechanism
5. Moving contacts combination
6. Arc extinguisher
7. Electromagnetic tripper base
8. Thermomagnetic tripper
9. Electromagnetic tripper
10. Upper fixed contacts
11. Lower protection plate 1
12. Lower protection plate 2
13. Spindle bracket
14. Arc extinguisher barrier
15. Upper protection plate
16. Base
17. Upper cover
18. Shunt tripper
19. Auxiliary switch
20. Alarm switch

Structure overview	Contact mechanism	Working method
The molded case circuit breaker is a integral type structure, which is made of precision combination of internal parts. The base is designed with mounting positions for fixed contacts of each phase and arc extinguisher. The moving contact combination is driven by a manual handle to contact or separate from the fixed contacts to achieve manual control of the breaking/closing. When the thermal/electromagnetic protection exceeds the factory preset value, the tripper drives the moving contact combination into protection breaking. Three-phase detection transformer, monitoring circuit board and tripper are installed internally. Protection values can be adjusted on site according to usage.	The moving contacts of each phase are fixed to a base of SMC material, forming the moving contact combination. The breaking process is rapid due to the high strength spring. The arc extinguishers which are independent between each phase can extinguish arc rapidly.	The molded case circuit breaker is driven by a manual handle exposed on the panel, compressing the spring to close the circuit. When a fault occurs during normal operation, the tripper will be triggered by the thermal/electromagnetic tripper. The strong force of the spring instantly breaks the circuit, achieving over-current protection and short-circuit protection.

Residual current protection	Under-voltage tripper	Shunt tripper
In the event of leakage or personal electrocution, the current vector sum through the transformer is not equal to zero. When it reaches the setting value, the circuit board drives the tripper to break the switch. It can also be set to alarm only without tripping.	When the supply voltage drops to the range of 70%-35% of the rated operational voltage, the under-voltage tripper can reliably break the circuit breaker. When the supply voltage is lower than 35% of the rated operational voltage, the under-voltage tripper can prevent the circuit breaker from closing. When the supply voltage is higher than 85% of the rated operational voltage, the under-voltage tripper can ensure the reliable closing of the circuit breaker. The rated value of the under-voltage is AC 50Hz, 230V, 400V. Customers can install under-voltage tripper as needed.	The rated control power voltage of the shunt tripper: 50Hz，AC230V，AC400V；DC110V，220V，24V. When the voltage is 70%~110% of the rated value, it can reliably break the circuit breaker. Customers can install shunt tripper as needed.

MAIN TECHNICAL PARAMETERS

Technical performance specifications

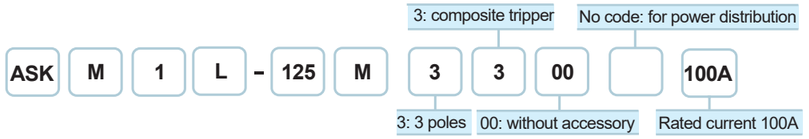
Model			ASKM1L-125	ASKM1L-250	ASKM1L-400	ASKM1L-630
Frame rating current Inm(A)			125	250	400	630
Rated current In(A)			16, 20, 25, 32, 40, 50, 63, 80, 100, 125	100, 125, 140, 160,180, 200, 225, 250	225, 250, 315, 350, 400	400, 500, 630
No. of poles			3/4	3/4	3/4	3/4
Rated insulation voltage Ui(V)			AC800			
Rated operational voltage Ue(V)			AC400	AC400	AC400	AC400
Rated impulse withstand voltage Uimp(V)			8000	8000	8000	8000
Arc distance(mm)			3 50(0)**	3 50(0)**	3 100(0)**	3 100(0)**
Breaking capacity level			M	M	M	M
Ultimate short-circuit breaking capacity Icu(kA)	AC400V		50	50	65	65
Service short-circuit breaking capacity Ics(kA)	AC400V		35	35	50	50
Rated residual action current I△n(A)	AC type residual current protection	U type tripper, non-delay	0.03 / 0.1 / 0.3 / 0.5	0.03 / 0.1 / 0.3 / 0.5	—	—
		V type tripper, switchable between non-delay and delay	1.0 / 0.3 / 0.5	0.1 / 0.3 / 0.5	0.1 / 0.3 / 0.5	0.3 / 0.5 / 1
		W type tripper, switchable between non-delay and delay	0.3 / 1 / 3 / 10	0.3 / 1 / 3 / 10	1 / 3 / 10 / 30	1 / 3 / 10 / 30
	A type residual current protection	VA type tripper, switchable between non-delay and delay	0.1 / 0.3 / 0.5	0.1 / 0.3 / 0.5	0.1 / 0.3 / 0.5	0.3 / 0.5 / 1
Use category			A		A	
Rated residual non-action current I△no(mA)			½ I△n(A)		½ I△n(A)	
Rated residual short-circuit making(breaking) capacity I△m(kA)			¼ Icu		¼ Icu	
Operational performance(times)*		Electrical service life(times)	8000	8000	7500	7500
		Mechanical service life(times)-without maintenance	20000	20000	10000	10000
		Mechanical service life(times)-with maintenance	40000	40000	20000	20000
Outline dimensions(mm)		W(3P/4P)	92/122	107/142	150/198	210/280
		L	150	165	257	280
		H	92	90	106.5	115.5

*Note: According to GB/T14048.1, the term of “service life” indicates the probability that an appliance will complete a number of operating cycles before repairing or replacing a component.
**Note: Choose the height of 6mm zero arc cover for 125 frame, 7.5mm for 250 frame, 9.3mm for 400 frame, 9.5mm for 800frame, realizing zero arc.

Note:
1.when this series of three poles circuit breaker connected to a three-phase load, the load can not be connected the neutral pole, otherwise the circuit breaker will act falsely.
2.when this series of three poles circuit breaker connected to a single-phase load, connect the phase line to the left pole, and connect the neutral line to the right pole. Do not connect the center pole.

PROTECTION CHARACTERISTIC PARAMETERS-POWER DISTRIBUTION TYPE - COMPOSITE TRIPPER

The leakage circuit breaker for power distribution equipped with composite tripper has overload, short-circuit and leakage protection.
The protection characteristics are factory set according to the following parameters. Some parameters can be customized.
Model Example:



Protection Function	Frame Rating	Rated Current In(A)	Action Characteristics
Overload protection	Whole series	16~630	Act by I²rt 1.05In(cold state), no act within 1 h (In≤63A) 1.3In(hot state), act ≤1 h (In≤63A) 1.05In(cold state), no act within 2 h (In>63A) 1.3In(hot state), act ≤2 h (In>63A)

Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)		Action time
Short-circuit protection	125	16~125	10In		Act instantaneously
	250	100~140	10In		
		160~250	10In	5h can be customized	
	400	250~400	10In		
	630	400~630	10In		
Action allowed error			±20%		

Protection Function		Frame Rating	Rated Current In(A)	Neutral Pole Overload Protection Current Setting Value(A), Neutral Pole Short-circuit Protection Current Setting Value(A)	
N pole protection (4 poles circuit breaker)	C / D	125	16~63	In, Ir	
			80/125	63,630	can be customized: N pole overload protection current=In N pole short-circuit protection current=Ir
		250	100 ~200	100,1000	
			225/250	125,1250	
		400	250~315	225,2250	
			350/400	250,2500	
		630	400~630	400,4000	
	A / B	Whole series	16~630	Without protection	

Residual current protection parameters default: AC type protection V type tripper,I △n=0.5A, △t=200ms,
The parameters can be adjusted by the knobs on the panel.

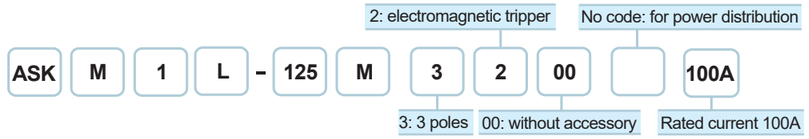
Protection Function	Frame Rating	Residual current tripper		Current setting value I△no(A)	Action time
Residual current protection	125/250	AC type protection	U	0.03/0.1/0.3/0.5 adjustable, non-delay time	
			V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	Maximum breaking time(ms) < 40
			W	0.3/ 1/ 3/ 10 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
	400	AC type protection	V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
			W	1/ 3/ 10/ 30 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
	630	AC type protection	V	0.3/ 0.5/ 1 adjustable, switchable between non-delay and delay	
			W	1/ 3/ 10/ 30 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.3/ 0.5/ 1 adjustable, switchable between non-delay and delay	

delay time △t(ms) (Ultimate non-drive time)	0	200	400	1000
Maximum breaking time(ms)	<40	<300	<600	<2000

Note: according to GB/T14048.2
non-delay time, benchmark action current 5I△n
delay time, benchmark action current 2I△n

PROTECTION CHARACTERISTIC PARAMETERS-POWER DISTRIBUTION TYPE - ELECTROMAGNETIC TRIPPER

The circuit breaker for power distribution equipped with electromagnetic tripper only has short-circuit and leakage protection.
The protection characteristics are factory set according to the following parameters.
Model Example:



Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)		Action time
Short-circuit protection	125	16~125	10In		Act instantaneously
	250	100~140	10In		
		160~250	10In	5h can be customized	
	400	250~400	10In		
	630	400~630	10In		
Action allowed error			±20%		

Protection Function		Frame Rating	Rated Current In(A)	Neutral Pole Short-circuit Protection Current Setting Value(A)	
N pole protection (4 poles circuit breaker)	C / D	125	16~63	10In	can be customized: 10In
			80/125	630	
		250	100~200	1000	
			225/250	1250	
		400	250~315	2250	
			350/400	2500	
		630	400~630	4000	
	A / B	Whole series	16~630	Without protection	

Residual current protection parameters default: AC type protection V type tripper,I △n=0.5A, △t=200ms,
The parameters can be adjusted by the knobs on the panel.

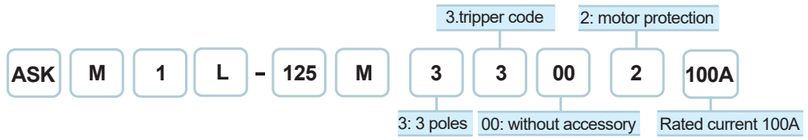
Protection Function	Frame Rating	Residual current tripper		Current setting value I△no(A)	Action time
Residual current protection	125/250	AC type protection	U	0.03/0.1/0.3/0.5 adjustable, non-delay time	
			V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	Maximum breaking time(ms) < 40
			W	0.3/ 1/ 3/ 10 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
	400	AC type protection	V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
			W	1/ 3/ 10/ 30 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
	630	AC type protection	V	0.3/ 0.5/ 1 adjustable, switchable between non-delay and delay	
			W	1/ 3/ 10/ 30 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.3/ 0.5/ 1 adjustable, switchable between non-delay and delay	

delay time △t(ms) (Ultimate non-drive time)	0	200	400	1000
Maximum breaking time(ms)	<40	<300	<600	<2000

Note: according to GB/T14048.2
non-delay time, benchmark action current 5I△n
delay time, benchmark action current 2I△n

PROTECTION CHARACTERISTIC PARAMETERS MOTOR PROTECTION COMPOSITE TYPE TRIPPER

The circuit breaker for composite equipped with electromagnetic tripper has overload, short-circuit and leakage protection.
The protection characteristics are factory set according to the following parameters.
Model Example:



Protection Function	Frame Rating	Rated Current In(A)	Action Characteristics
Overload protection	Whole series	16~630	Act by I²rt 1.0In(cold state), no act within 2 h 1.2In(hot state), act within2 h 1.5In(hot state), ⩽8 min 7.2In(cold state), 6s< Tp ⩽20s Tripping level, 20

Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)	Action time
Short-circuit protection	Whole series	16~630	12In	Act instantaneously
Action allowed error			±20%	

Protection Function		Frame Rating	Rated Current In(A)	Neutral Pole Overload Protection Current Setting Value(A), Neutral Pole Short-circuit Protection Current Setting Value(A)	
N pole protection (4 poles circuit breaker)	C / D	125	16~63	In, Ir	
			80/125	63,756	can be customized: N pole overload protection current=In N pole short-circuit protection current=Ir
		250	100~200	100,1200	
			225/250	125,1500	
		400	250~315	225,2700	
			350/400	250,3000	
		630	400~630	400,4800	
	A / B	Whole series	16~630	Without protection	

Residual current protection parameters default: AC type protection V type tripper,I △n=0.5A, △t=200ms,
The parameters can be adjusted by the knobs on the panel.

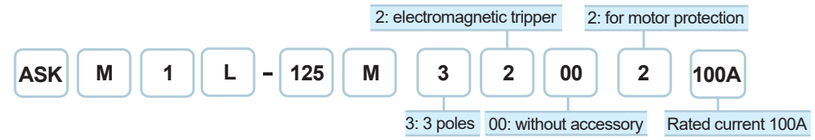
Protection Function	Frame Rating	Residual current tripper		Current setting value I△no(A)	Action time
Residual current protection	125/250	AC type protection	U	0.03/0.1/0.3/0.5 adjustable, non-delay time	
			V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	Maximum breaking time(ms) < 40
			W	0.3/ 1/ 3/ 10 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
	400	AC type protection	V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
			W	1/ 3/ 10/ 30 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
	630	AC type protection	V	0.3/ 0.5/ 1 adjustable, switchable between non-delay and delay	
			W	1/ 3/ 10/ 30 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.3/ 0.5/ 1 adjustable, switchable between non-delay and delay	

delay time △t(ms) (Ultimate non-drive time)	0	200	400	1000
Maximum breaking time(ms)	<40	<300	<600	<2000

Note: according to GB/T14048.2
non-delay time, benchmark action current 5I△n
delay time, benchmark action current 2I△n

PROTECTION CHARACTERISTIC PARAMETERS-MOTOR PROTECTION TYPE - ELECTROMAGNETIC TRIPPER

The circuit breaker for motor protection equipped with electromagnetic tripper only has short-circuit and leakage protection.
The protection characteristics are factory set according to the following parameters.
Model Example:



Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)	Action time
Short-circuit protection	Whole series	16~630	12In	Act instantaneously
Action allowed error			±20%	

Protection Function		Frame Rating	Rated Current In(A)	Neutral Pole Overload Protection Current Setting Value(A), Neutral Pole Short-circuit Protection Current Setting Value(A)	
N pole protection (4 poles circuit breaker)	C / D	125	16~63	12In	
			80/125	756	can be customized: 12In
		250	100~200	1200	
			225/250	1500	
		400	250~315	2700	
			350/400	3000	
		630	400~630	4800	
	A / B	Whole series	16~630	Without protection	

Residual current protection parameters default: AC type protection V type tripper,I △n=0.5A, △t=200ms,
The parameters can be adjusted by the knobs on the panel.

Protection Function	Frame Rating	Residual current tripper		Current setting value I△no(A)	Action time
Residual current protection	125/250	AC type protection	U	0.03/0.1/0.3/0.5 adjustable, non-delay time	
			V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	Maximum breaking time(ms) < 40
			W	0.3/ 1/ 3/ 10 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
	400	AC type protection	V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
			W	1/ 3/ 10/ 30 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	
	630	AC type protection	V	0.3/ 0.5/ 1 adjustable, switchable between non-delay and delay	
			W	1/ 3/ 10/ 30 adjustable, switchable between non-delay and delay	
		A type protection	VA	0.3/ 0.5/ 1 adjustable, switchable between non-delay and delay	

delay time △t(ms) (Ultimate non-drive time)	0	200	400	1000
Maximum breaking time(ms)	<40	<300	<600	<2000

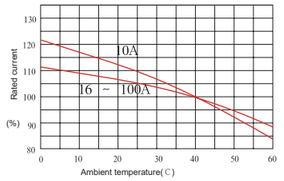
Note: according to GB/T14048.2
non-delay time, benchmark action current 5I△n
delay time, benchmark action current 2I△n

POWER DISTRIBUTION TIME/CURRENT PROTECTION CHARACTERISTIC CURVE

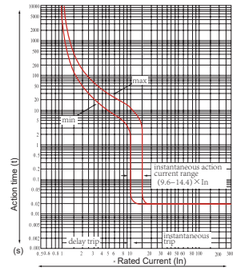
125A Frame

Temperature compensation curve

Current-temperature characteristics



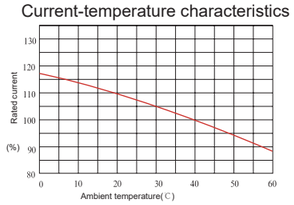
Action curve



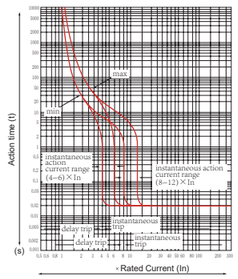
250A Frame

Temperature compensation curve

Current-temperature characteristics



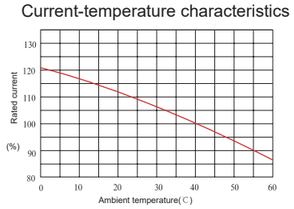
Action curve



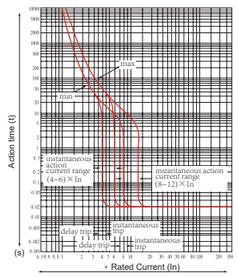
400A Frame

Temperature compensation curve

Current-temperature characteristics



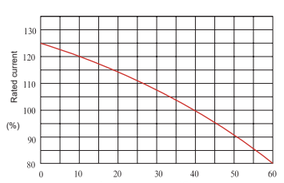
Action curve



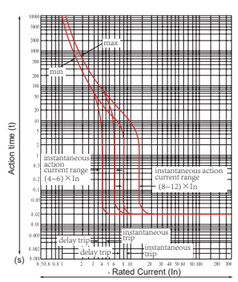
630A Frame

Temperature compensation curve

Current-temperature characteristics



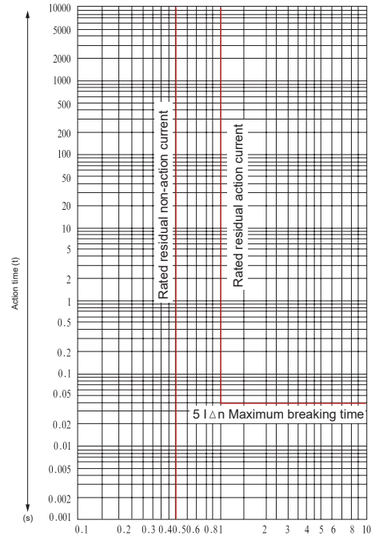
Action curve



RESIDUAL CURRENT PROTECTION CHARACTERISTIC CURVE

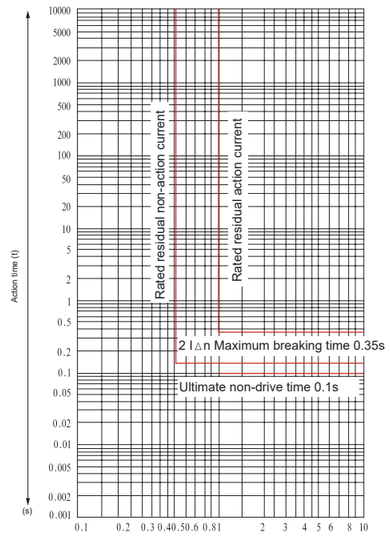
I△n=100mA, 300mA, 500mA

Non-delay type residual current protection time / current characteristic curve



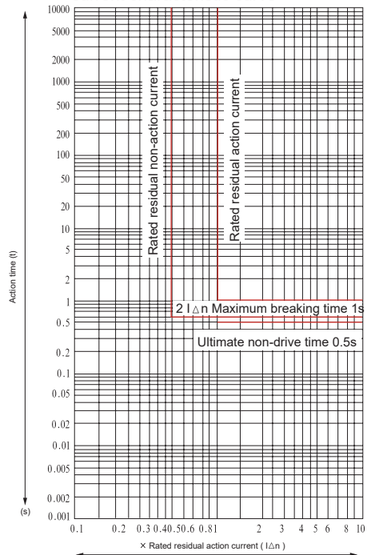
I△n=100mA, 300mA, 500mA, 1000mA

Delay type residual current protection time / current characteristic curve



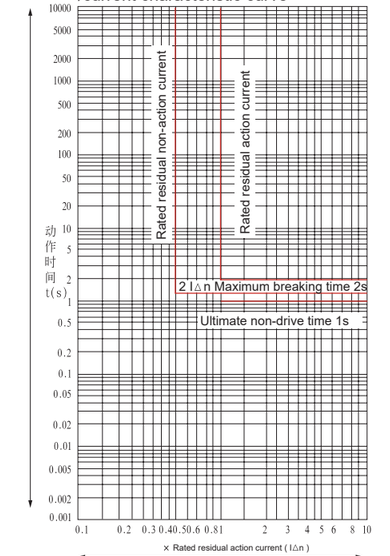
I△n=100mA, 300mA, 500mA, 1000mA

Delay type residual current protection time /current characteristic curve



I△n=100mA, 300mA, 500mA, 1000mA

Delay type residual current protection time /current characteristic curve



INTERNAL OPTIONAL ACCESSORIES

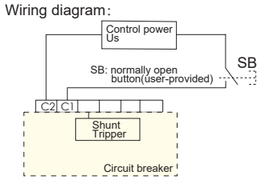
The ASKM1L thermomagnetic leakage circuit breaker has five basic accessory modules available for optional installation inside the switch.

Shunt Tripper MODEL: FJ-FT-ASKM1L

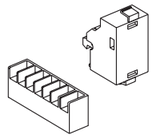
Usage:
Shunt tripper is used to remotely control the breaking of the circuit breaker. It is instantaneous working system. Long time energizing is prohibited. Each power-on time is recommended to be no more than 1s.
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable outlet wire method: terminal type

Control power: Us=(70%-110%)Ue
Frequency: 50/60 Hz
Ue： rated operational voltage of shunt tripper
Default voltage: AC 220V
Optional voltage:AC 380V DC110V DC220V

Wiring diagram:



Outline:

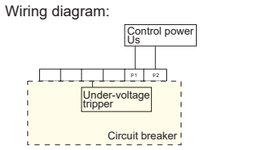


Under-voltage tripper MODEL: FJ-QT-ASKM1L

Usage:
Under-voltage tripper is used for low voltage protection of power lines and power-using equipment. It ensures that load equipment is not damaged by a malfunction caused by a voltage below the rated value.
Standard outlet wire method:
Module type
(Control module is installed on the side of the circuit breaker, and the under-voltage tripper is installed inside the breaker)

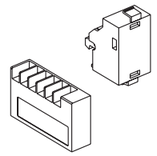
1.Control power voltage Us1: when Us1=(35%-70%)Ue, the under-voltage tripper can reliably break circuit breaker.
2.Control power voltage Us2: when Us2:Us2=(85%-110%)Ue, the circuit breaker can close normally.
3.Control power voltage Us3: when Us3＜35%Ue,the under-voltage tripper can prevent circuit breaker from closing.
Frequency: 50/60Hz
Ue: rated operational voltage
Standard voltage AC230V
Optional voltage: AC380V AC110V

Wiring diagram:



Special reminder:
The circuit breaker equipped with an under-voltage tripper can only be normally opened and closed if Us2 voltage is input between the P1 and P2 terminals.

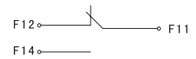
Outline:



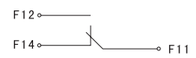
Auxiliary switch MODEL: FJ-FC-ASKM1L

Usage:
It is used to provide the breaking and closing status signal of the circuit breaker, helping the secondary control circuit to realize the automatic control function
1 normally open 1 normally closed: 1NO1NC
2 normally open 2 normally closed: 2NO2NC
4 normally open 4 normally closed: 4NO4NC
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable outlet wire method: terminal type

When circuit breaker is at position of open or free trip

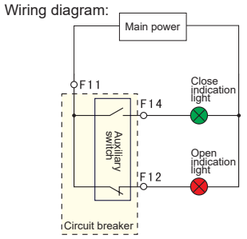


When circuit breaker is at closing position

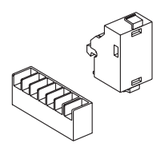


Conventional thermal current: Ith=3A

Wiring diagram:



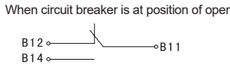
Outline:



Alarm switch MODEL: FJ-BC-ASKM1L

Usage:
It is used to provide the overload, short-circuit(free trip) and under-voltage fault(fault trip) status signal of the circuit breaker, helping the secondary control circuit to realize the automatic control function.
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable outlet wire method: terminal type

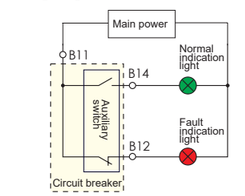
When circuit breaker is at position of open/closed



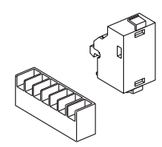
When circuit breaker is at position of free trip&fault trip

Conventional thermal current: Ith=3A

Wiring diagram:



Outline:



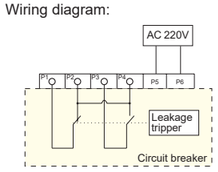
Leakage alarm unit module MODEL: FJ-LDBJ-ASKM1L

Usage:
It is used to provide alarm signal in the event of a leakage fault in the circuit breaker, helping the secondary control circuit to realize the automatic control function.

Note: Ⅱ module is designed to meet the special function. Users should consider carefully when using this function to protect the appliance.

The leakage alarm unit has two modules:
Ⅰ leakage alarm and tripping
The module issues alarm signal and the circuit breaker trips in case of leakage.
Ⅱ leakage alarm without tripping
The module issues alarm signal but the circuit breaker does not trip in case of leakage.

Wiring diagram:



Conventional thermal current: Ith=3A

Outline:

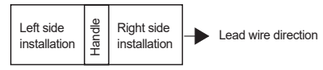
INTERNAL ACCESSORIES CODE TABLE

Depending on the application requirements, one or more base modules can be installed inside the switch. Each module has an individual code. Different modules can be combined and have a new accessory code.

Internal accessories icons

☐ Alarm switch ● Shunt tripper
■ Auxiliary switch ○ under-voltage tripper

Internal accessories installation position schematic diagram

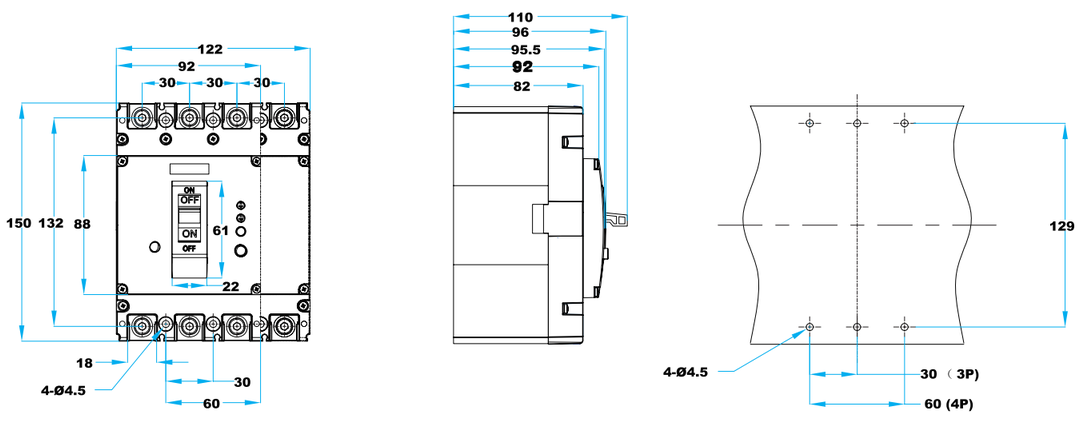


Code	Accessory	ASKM1L-125/250				ASKM1L-400				ASKM1L-630			
		3P/4P	A/D	4P	B/C	3P/4P	A/D	4P	B/C	3P/4P	A/D	4P	B/C
00	No accessory												
08	Alarm switch	◂□		◂□		◂□		◂□		◂□		◂□	
10	Shunt tripper	◂●		◂●		◂●		◂●		◂●		◂●	
20	Auxiliary switch(1NO1NC)	◂■		◂■									
	Auxiliary switch(2NO2NC)					◂■		◂■		◂■		◂■	
02	Auxiliary switch(2NO2NC)	◂■		◂■									
30	Under-voltage tripper	◂○		◂○		◂○		◂○		◂○		○	
40	Shunt tripper+Auxiliary switch(1NO1NC)			◂●■									
	Shunt tripper+Auxiliary switch(2NO2NC)			◂●■				◂●■				◂●■	
12	Shunt tripper+Auxiliary switch(2NO2NC)			◂●■									
50	Shunt tripper+under-voltage tripper							◂○●				◂○●	
60	2 sets of auxiliary switches(2NO2NC)			◂■■									
	2 sets of auxiliary switches(4NO4NC)							◂■■				◂■■	
22	2 sets of auxiliary switches(3NO3NC)			◂■■									
23	2 sets of auxiliary switches(4NO4NC)			◂■■									
70	Under-voltage tripper+Auxiliary switch(1NO1NC)			◂○■									
	Under-voltage tripper+Auxiliary switch(2NO2NC)							◂○■				◂○■	
32	Under-voltage tripper+Auxiliary switch(2NO2NC)			◂○■									
18	Shunt tripper+Alarm switch			◂●□				◂●□				◂□●	
28	Auxiliary switch(1NO1NC)+Alarm switch	◂■□		◂■□									
	Auxiliary switch(2NO2NC)+Alarm switch					◂■□		◂■□		◂■□		◂■□	
38	Under-voltage tripper+Alarm switch			◂○□									
48	Shunt tripper+Auxiliary switch(1NO1NC) +Alarm switch			◂●■□									
	Shunt tripper+Auxiliary switch(2NO2NC) +Alarm switch							◂■□●				◂■□●	
68	2 sets of auxiliary switches(2NO2NC) +Alarm switch			◂■■□									
	2 sets of auxiliary switches(4NO4NC) +Alarm switch							◂■■□				◂■■□	
05	2 sets of auxiliary switches(3NO3NC) +Alarm switch			◂■■□									
78	Under-voltage tripper+Auxiliary switch(1NO1NC) +Alarm switch			◂○■□									

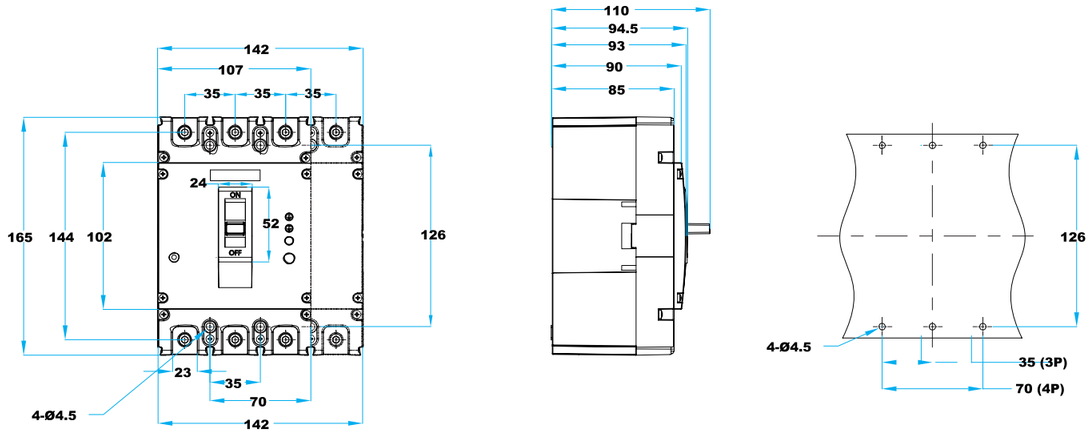
OUTLINE AND INSTALLATION DIMENSIONS

Front wiring

ASKM1L -125 Frame

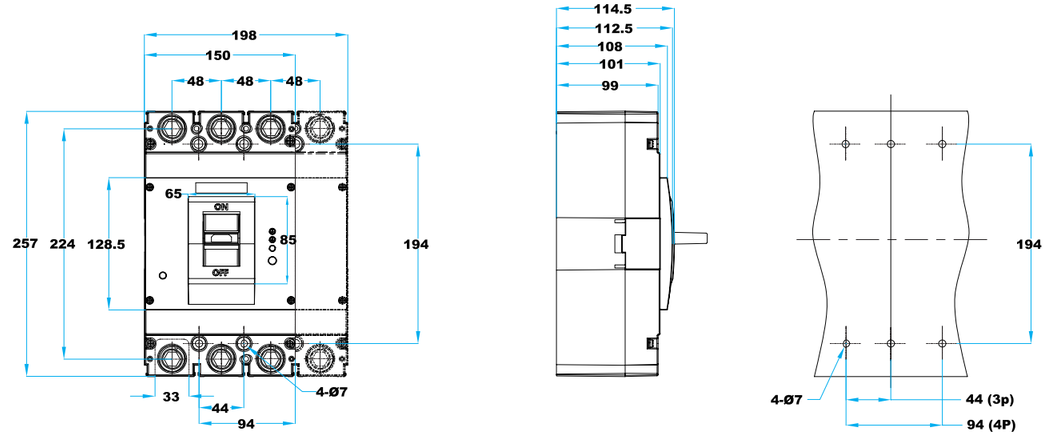


ASKM1L -250 Frame

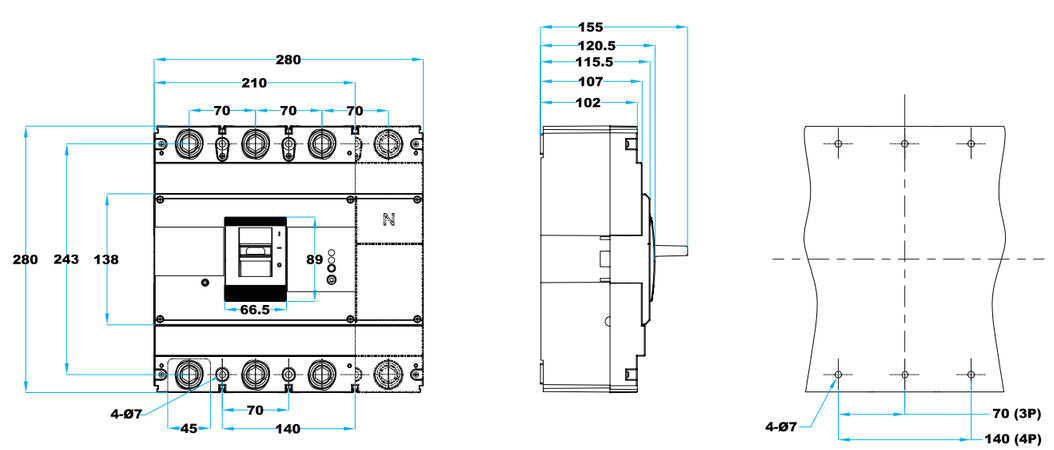


Front wiring

ASKM1L -400 Frame



ASKM1L -630 Frame



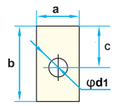
External Optional Accessory- Plug-in Front Wiring Base

Optional plug-in front wiring base is available for ASKM1L circuit breaker.

Plug-in front wiring base(PF) MODEL: FJ-BQDZ-ASKM1L

Usage:
The plug-in front wiring base is mounted on the back of the molded case circuit breaker, and is integrated with the breaker through conductive copper posts and fastening bolts. In the event of a serious circuit breaker failure, the circuit breaker can be quickly repaired and replaced without removing the primary cable.

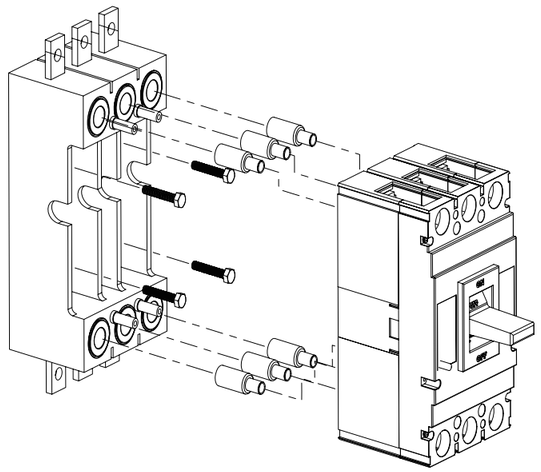
Copper bars dimensions(mm)



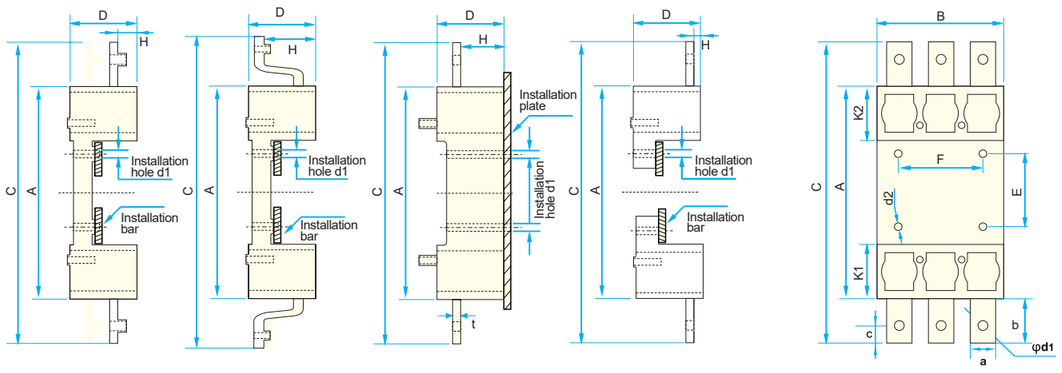
125-800 Frame

Frame	a	b	c	d1
125	19	21	11	6.5
250	22	36	15	8.5
400	25	37	15.5	11
630	35	50	15.5	13

Installation schematic diagram:



Outline and installation dimensions:



125 250 400 630(Separate type)

Frame	Outline and installation opening dimensions										
	A	B	C	D	E	F	H	K1	K2	d2	t
125A	172	96	214	50	60	66	15	38	38	7	3
250A	183	110	254	51.5	64	70	46	44	44	7	3
400A	276	150	352	80	135	115	31	—	—	7	6
630A	344	210	444	87	188	91	13	62	62	11	8

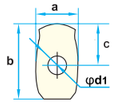
External Optional Accessory- Plug-in Rear Wiring Base

Optional plug-in rear wiring base is available for ASKM1L circuit breaker.

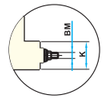
Plug-in rear wiring base(PR) MODEL: FJ-BHDZ-ASKM1L

Usage:
The plug-in rear wiring base is mounted on the back of the molded case circuit breaker, and is integrated with the breaker through conductive copper posts and fastening bolts. In the event of a serious circuit breaker failure, the circuit breaker can be quickly repaired and replaced without removing the primary cable.

Copper bars dimensions(mm)



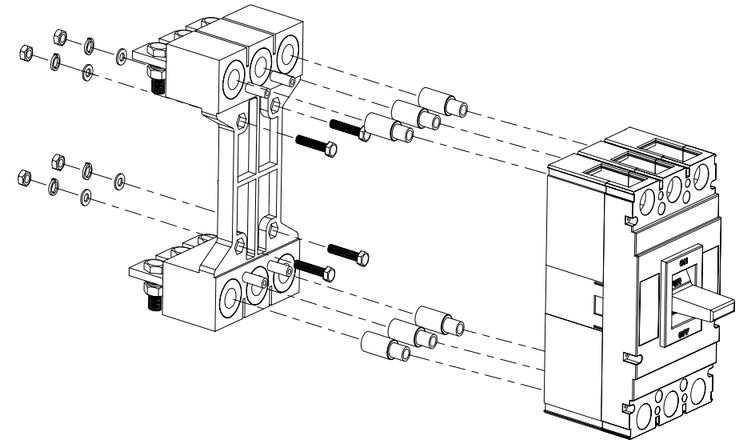
125-400 Frame



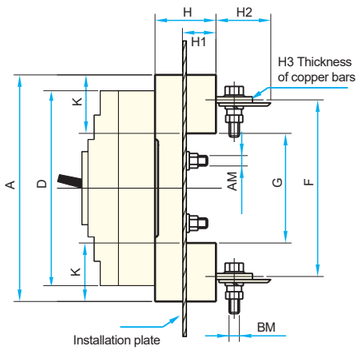
800 Frame

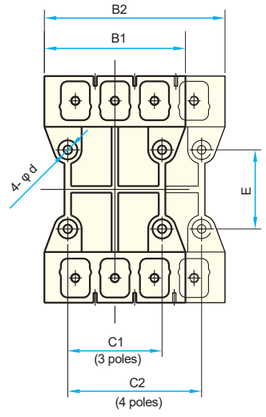
Frame	a	b	c	d1
125	18	34	18	8
250	21	36	20	8
400	30	43	22	12
630	BM=M14(Bolt outlet wire)			

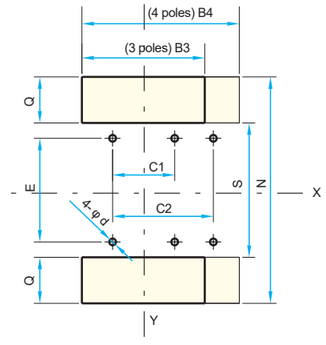
Installation schematic diagram:



Outline and installation dimensions:







Installation plate opening dimensions(mm)

Frame	Outline and installation dimensions(mm)														Opening dimensions(mm)				
	A	B1	B2	C1	C2	D	E	F	G	K	H	H1	H2	H3	N	S	Q	B3	B4
125A	168	91	125	60	90	150	56	132	92	38	50	33	35	3.5	178	82	48	101	135
250A	186	107	145	70	105	165	54	145	94	46	50	33	37	5.5	196	84	56	117	155
400A	280	149	200	60	108	257	129	224	170	55	60	38	46	8	290	160	65	159	210
630A	305	210	280	90	162	280	146	243	181	62	87	60	16	/	315	171	72	220	290

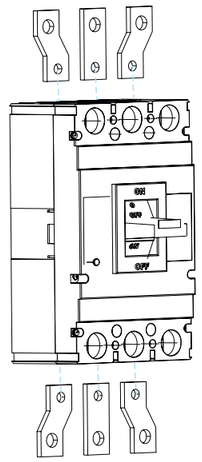
External Optional Accessory- Front Extended Copper Bars

Optional front extended wiring is available for ASKM1L circuit breaker.

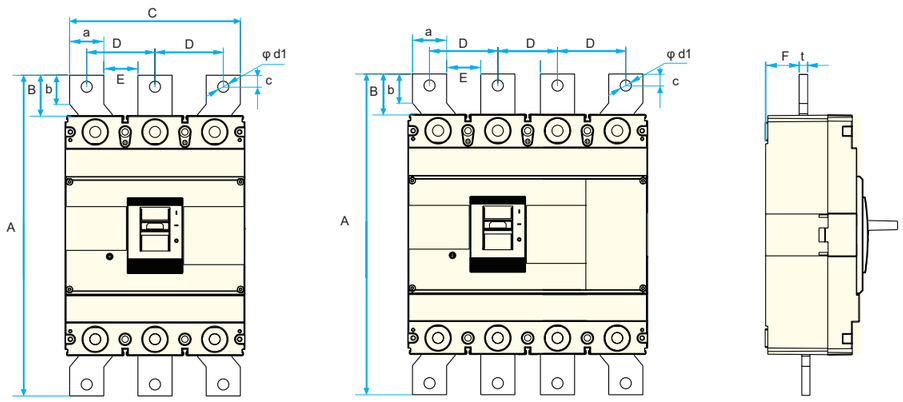
Front extended copper bars(C)	MODEL: FJ-BQJC-ASKM1L

Usage:
The front extended copper bars are installed at the inlet copper bars and outlet copper bars of the molded case circuit breaker, which expands the primary cable wiring space and facilitates the quick installation of cables on site.

Installation schematic diagram:



Outline and installation dimensions:



Fromm	Outline and installation opening dimensions										
	A	B	C	D	E	F	a	b	c	d1	t
125A	197	23	93	39	24	28.5	15	15	7.5	8.5	4
250A	245	40	104	42	22	22.6	20	23	9	9	5
400A	340	41	148	60	32	38	28	25	15	14	6
630A	376	48	200	80	40	39	40	34	14	13	10

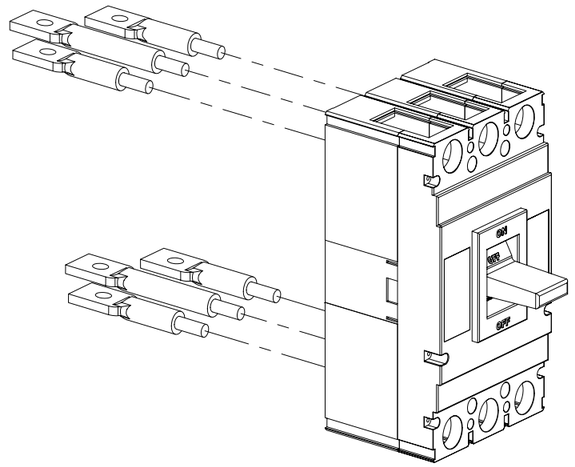
External Optional Accessory- Rear Copper Bars

Optional rear wiring is available for ASKM1L circuit breaker.

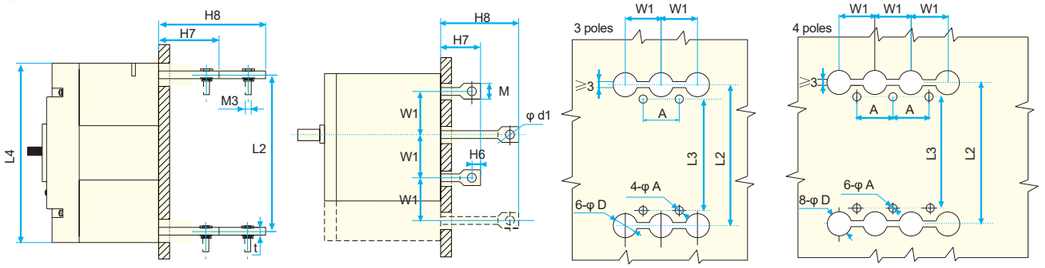
Rear wiring(R)	MODEL: FJ-BHJX-ASKM1L

Usage:
The rear copper bars are installed at the inlet copper bars and outlet copper bars of the molded case circuit breaker, which can change the circuit breaker vertical front wiring to horizontal rear wiring, isolating the primary cable behind the mounting board and improving the safety factor of the electrical cabinet.

Installation schematic diagram:



Outline and installation dimensions:



	125A	250A	400A	630A
A	30	35	44	70
φ A	4.5	4.5	7	7
φ D	10	12	33	37
L2	132	144	224	243
L3	129	126	194	243
L4	150	165	257	280
W1	30	35	48	70
φ d1	8	8	12	16
M	19	19	31	34
t	4.5	4.5	7.5	10.5
H6	14	14	21	22
H7	53.5	60	55	73
H8	85.5	92	90	112

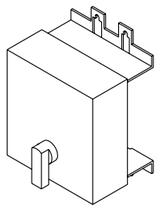
External Optional Accessory-Electric Operating Mechanism

Optional CD1 type or CD2 type electric operating mechanism is available for ASKM1L circuit breaker.

Electric operating mechanism-CD1 — MODEL: FJ-DC/CD1-ASKM1L-250

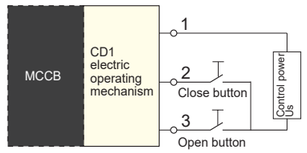
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally driven by electromagnetic, it has the advantage of low starting current.

Applicable frame: 125, 250
Standard wiring method: Lead wire type

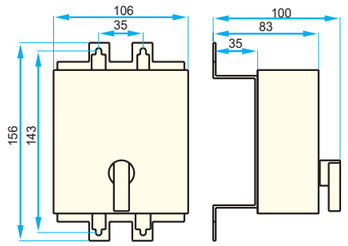


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V

Wiring diagram:



Installation schematic diagram:

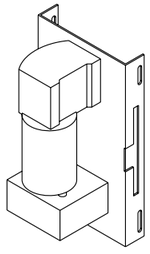


Applicable frame: 125, 250

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1-ASKM1L-400

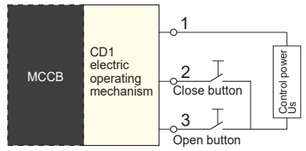
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally driven by motor, it has the advantage of low starting current.

Applicable frame: 400, 630
Standard wiring method: Terminal type

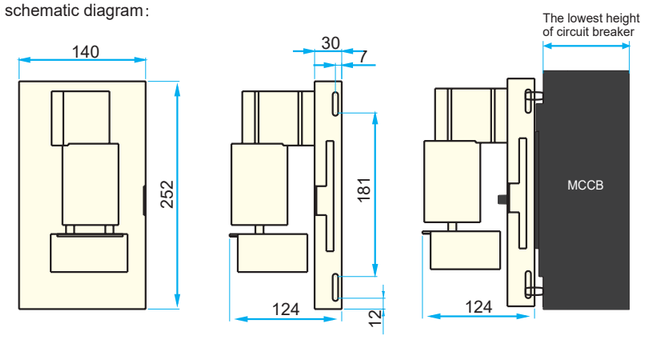


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V
DC 220V

Wiring diagram:



Installation schematic diagram:

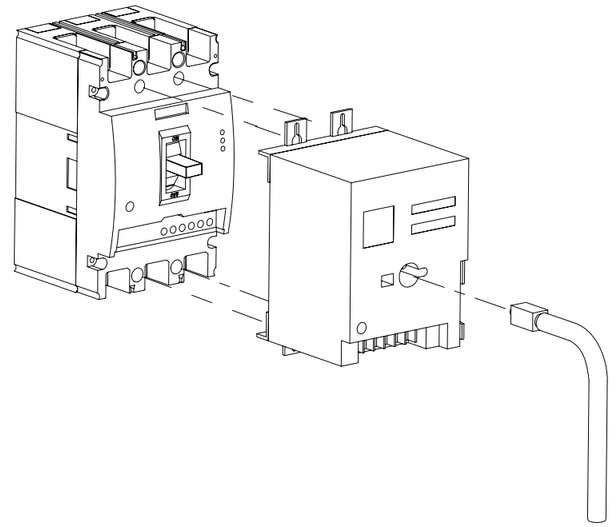


Electric Operating Mechanism- CD2 — MODEL: FJ-DC/CD2-ASKM1L

Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally driven by permanent magnet motor, it has the advantage of low starting current and wide control voltage range.

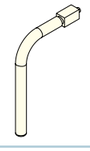
Applicable frame: 125-630 whole series
Standard wiring method: Terminal type

Wiring diagram:



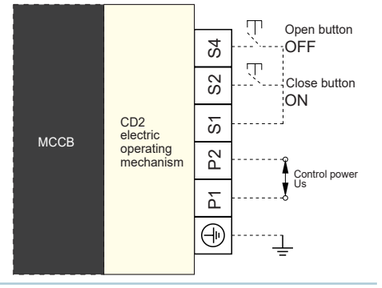
Manual handle:
frame 125, 250

frame 400, 630, 800

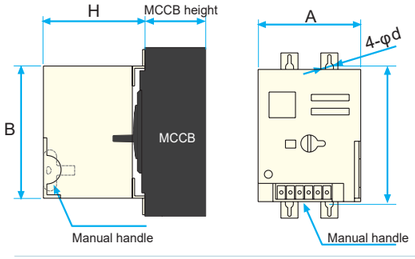


Control power: Us=(70%-110%) Ue
Frequency: 50Hz
Ue:rated operational voltage of shunt tripper
Default voltage:AC 220V
Optional voltage: AC 110V
DC 220V
DC 110V
DC 24V

Wiring diagram:



Installation schematic diagram:



Model	Outline and installation dimensions(mm)				Action current (A)	Mechanical service life	Motor power (w)
	A	B	H	4-φd			
ASKM1L-125	90	116	94	4.5	⩽0.5	14000	14
ASKM1L-250	90	116	90	4.5	⩽0.5	14000	14
ASKM1L-400	130	176	143	6.5	⩽2	5000	35
ASKM1L-630	130	176	147	6.5	⩽2	5000	35

External Optional Accessory-Manual Operating Mechanism

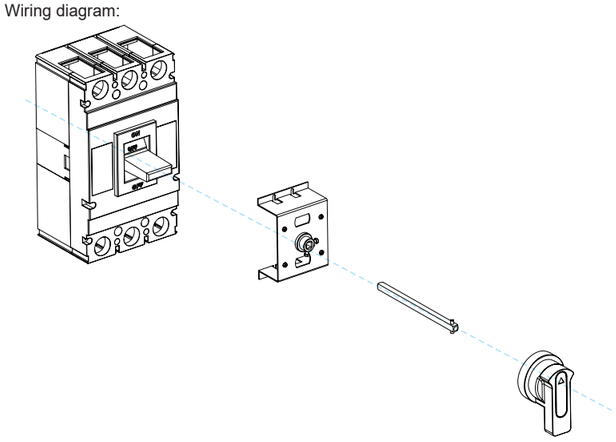
Optional manual operating mechanism is available for ASKM1L circuit breaker.

Manual operating mechanism	MODEL: FJ-SC- ASKM1L

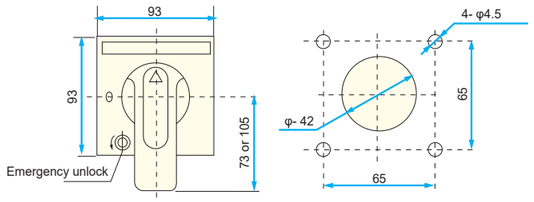
Usage:
The manual operating mechanism is installed on the front of the circuit breaker. Through rotating handle, it realizes the requirement of operation on the panels of drawer cabinet, distribution cabinet, power box, etc. It also provides the function of interlocking between the circuit breaker and the cabinet door panel.

Features:
1.When the circuit breaker is in the closed state, the manual operating mechanism is interlocked with the door plate and the cabinet door cannot be opened.
2.In case of failure when operating handle or manual operating mechanism in the closed state, the cabinet door can be opened by the emergency unlocking device on the operating handle.
3. For the manual handles matching with the manual operating mechanisms corresponding to different frames, they have the same openings on door plates.
4.The length of standard square shaft is 150mm. We can also provide special specification.

Wiring diagram:

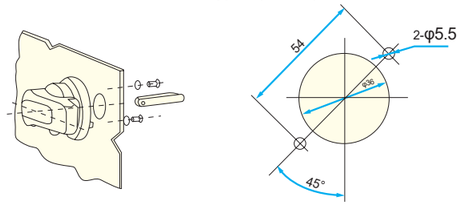


Square handle dimensions: type F



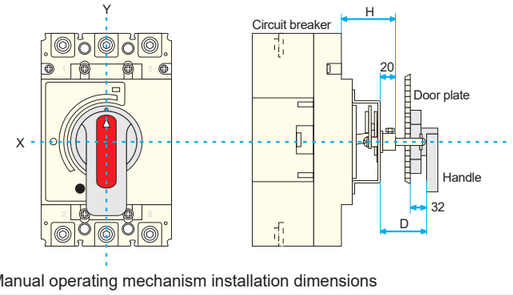
Square handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

Round handle dimensions: type A(default)



Round handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

Manual operating mechanism installation schematic diagram



Attention:
The manual operating mechanism used with our molded case circuit breaker must be ordered from our company to ensure the quality of the product. If the user purchases other brands, our company will not bear any adverse consequence occurring after the installation.

Manual operating mechanism installation dimensions

Model	ASKM1L-125	ASKM1L-250	ASKM1L-400	ASKM1L-630
Installation dimensions(H)	54	54	84	76
Operating handle to the center of circuit breaker Y value	0	0	0	-20

RATED CURRENT AND WIRE CROSS SECTION AREA

Connection Wire Reference Cross Section Area

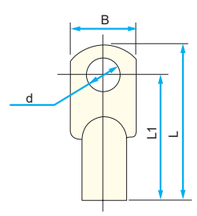
Rated current(A)	10	16, 20	25	32	40, 50	63	80	100	125, 140	160	180, 200, 225	250	315, 350	400
Wire cross section area (mm²)	1.5	2.5	4	6	10	16	25	35	50	70	95	120	185	240

Rated current(A)	Cable		Copper bars	
	Cross section area(mm²)	Quantity	Size(mm×mm)	Quantity
500	150	2	30x5	2
630	185	2	40x5	2
700/800	240	2	50x5	2

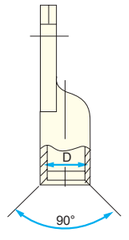
MODEL OF WIRING TERMINALS

JGC\JBC wiring terminal reference dimension

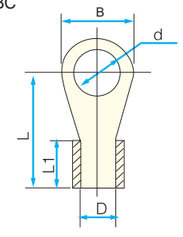
JGC



JGC



JBC



Model	Current(A)	Wire cross section area (mm²)	Terminal model	B	L	L1	D	d
125	10, 16, 20	2.5	JBC2.5-8	15	24.5	8.5	φ2.6	φ8.2
	25	4	JBC4-8	13.4	20.4	9.2	φ2.8	φ8.2
	32	6	JBC6-8	15	24.5	10	φ3.5	φ8.2
	40, 50	10	JBC10-8	15	24.5	11	φ4.5	φ8.2
	63	16	JBC16-8	12.5	41	33.5	φ6	φ8.2
	80	25	JGC25-8	14	46	38.5	φ7	φ8.2
	100	35	JGC35-8	15.5	52	44.5	φ8	φ8.2
	100	35	JGC35-8	15.5	52	44.5	φ8	φ8.2
250	125, 140	50	JGC50-8	17	54	45	φ10	φ8.2
	160	70	JGC70-8	21.6	61	52	φ11	φ8.2
	100	35	JGC35-8	15.5	52	44.5	φ8	φ8.2
	125, 140	50	JGC50-8	17	54	45	φ10	φ8.2
	160	70	JGC70-8	21.6	61	52	φ11	φ8.2
	180, 200, 225	95	JGC95-8	22	66	57	φ13	φ8.2
	250	95	JGC95-8	22	66	57	φ13	φ8.2