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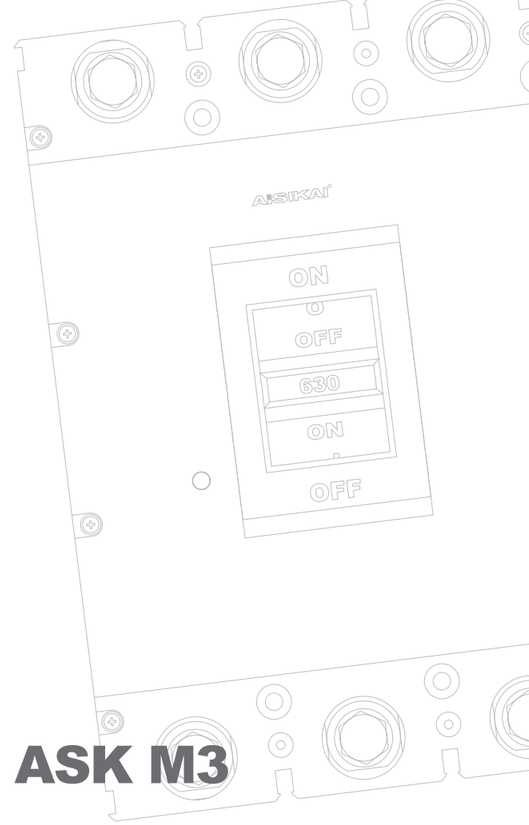

ASK M3

MOLDED CASE CIRCUIT BREAKER

SELECTION GUIDE

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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.

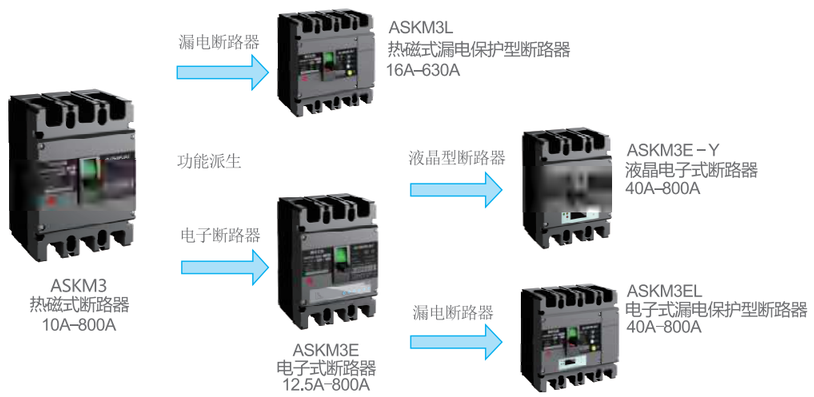
Over the years, we have been specializing in the design, R&D and the professional manufacturing of the low voltage electric products. Oriented by the satisfaction and expectations of customers, we continuously improve product performance on the condition of safety and reliability. We use advanced automated 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



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

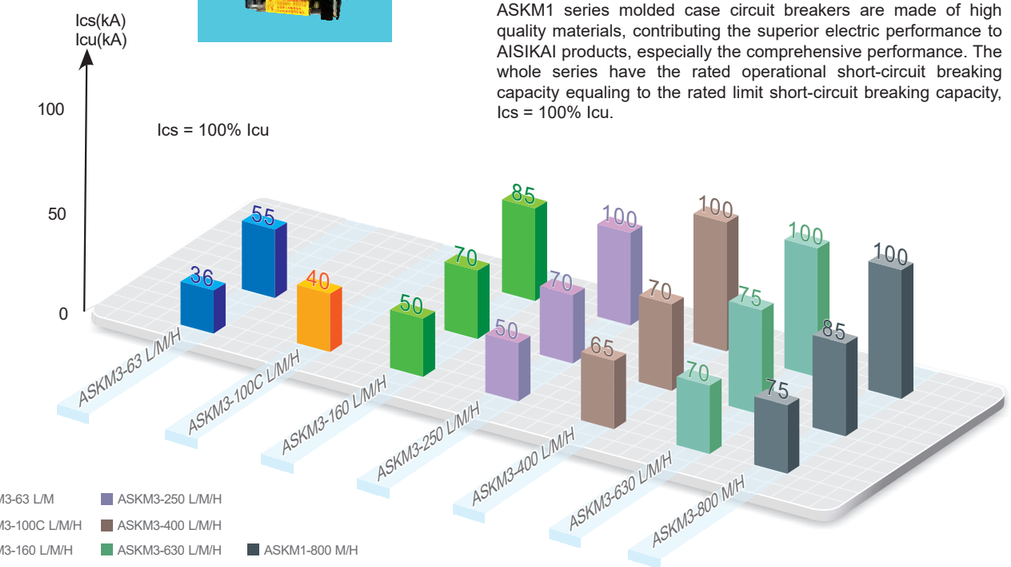
ASKM1 series molded case circuit breakers can be equipped with a wide range of optional accessories, thus meeting the functional requirements of various power distribution systems.

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 operational short-circuit breaking capacity equaling to the rated limit short-circuit breaking capacity, Ics = 100% Icu.



ASKM3 THERMOMAGNETIC NORMAL PROTECTION MOLDED CASE CIRCUIT BREAKER SELECTION TABLE

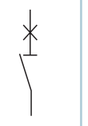
Product code	Frame rating	Operation method	Tripper code	Usage	Special function code	Installation wiring method
Molded case circuit breaker	63	P: electric operating mechanism	2:electromagnetic tripper, only have short-circuit protection	2: motor protection	I: overload alarm non-trip function	No code: front wiring
	100C	Z: rotate handle operation	3: composite tripper, have short-circuit protection and overload protection	No code: power distribution		C: front extended wiring
	160	No code: direct handle operation				R: rear wiring
	250					PF: plug in front wring
	400					PR: plug in rear wiring
	630					DF: draw out front wiring
	800					DR: draw out rear wiring

ASK	M	1	-	125	H	/	P	/	3	3	00	2	B	I	/	TH	/	R	/	100A

Company	Design serial	Rated ultimate short-circuit breaking capacity	No. of poles	Internal accessories	Special code of N pole type	Use environment	Rated current
AISIKAI ELECTRIC		C: Basic	2: 2 poles	00: no accessory	A:	No code: normal	10A~ 800A
		L: standard	3: 3 poles	08: alarm contact	B: default	TH: humid tropical	
		M: medium-high	4: 4 poles	Refer to MCCB-19 for details	C:		
		H: high			D:		

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



ASKM3

Model definition 1:

ASKM3- 100C/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:

ASKM3- 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

ASKM3 THERMOMAGNETIC NORMAL PROTECTION MOLDED CASE CIRCUIT BREAKER

OVERVIEW

- ASKM3 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)**
  C-Basic, 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 tipper, 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.

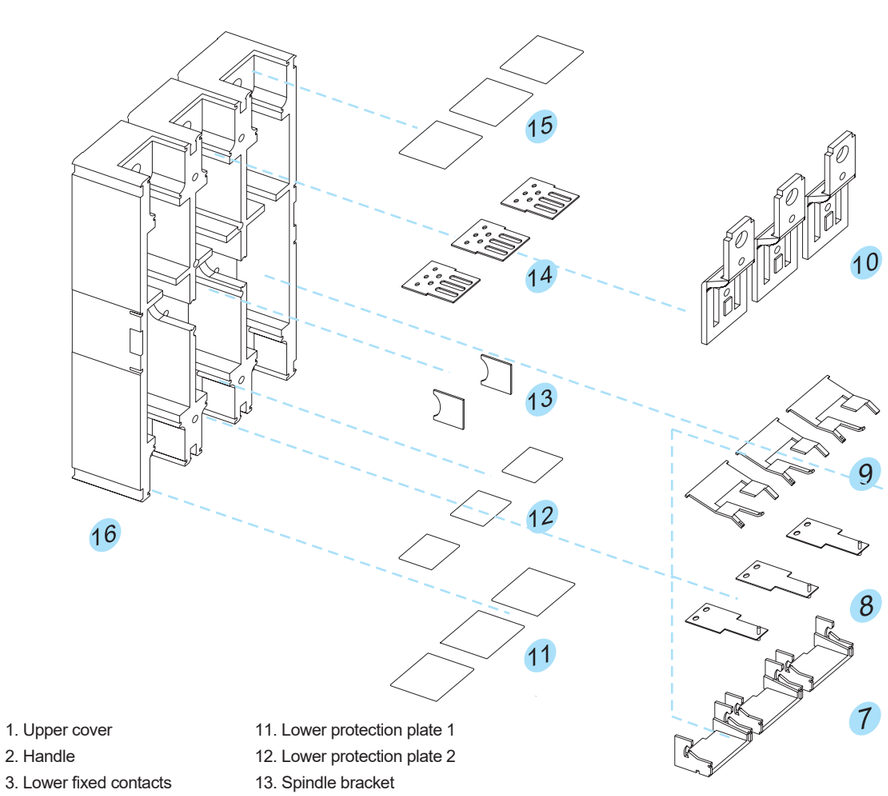
APPLICATIONS

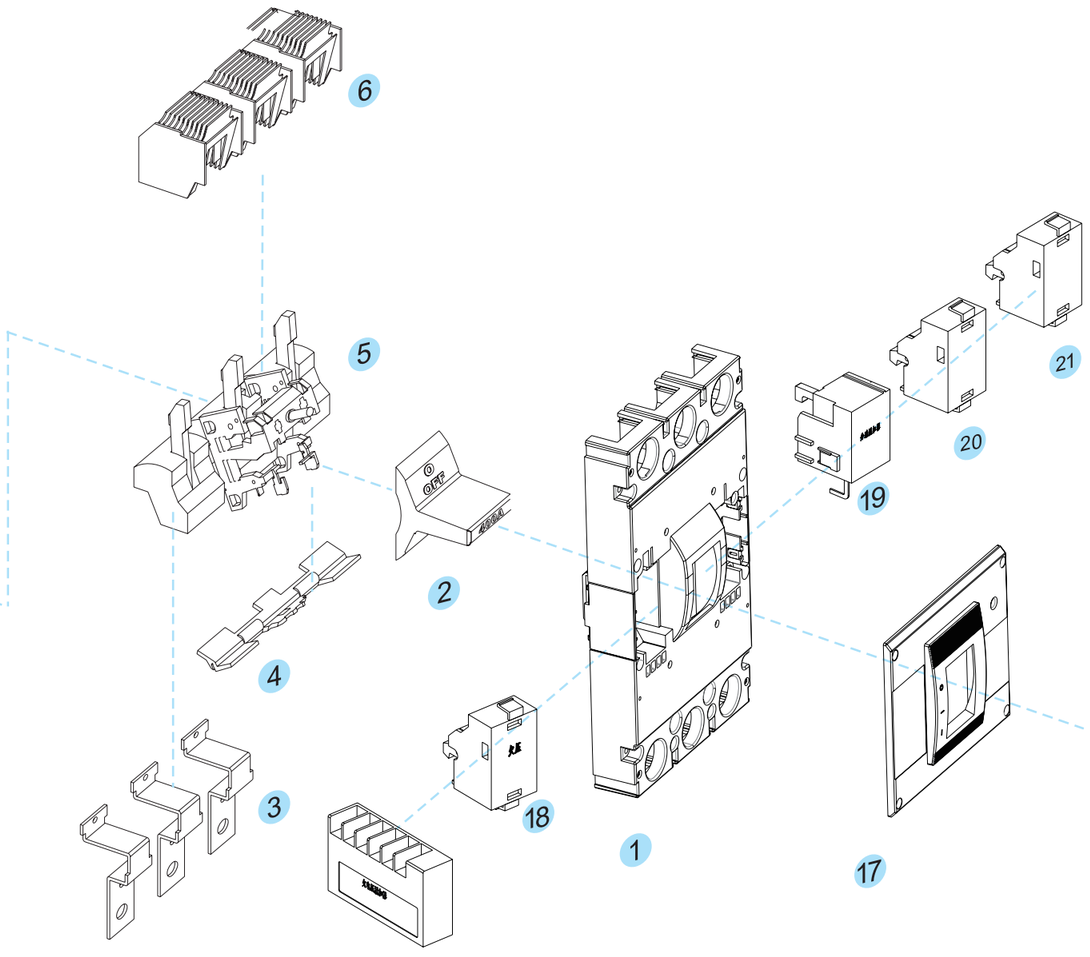
Civil　Commercial　Industrial

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. Lower fixed contacts
4. Tripping shaft
5. Moving contacts combination
6. Arc extinguisher
7. Electromagnetic tipper 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. Face cover
18. Under-voltage tripper
19. Shunt tripper
20. Auxiliary switch
21. Alarm switch

Structure overview

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.

Contact mechanism

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.

Working method

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

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.

Shunt tripper

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.

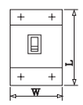
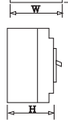
MAIN TECHNICAL PARAMETERS







Form 1

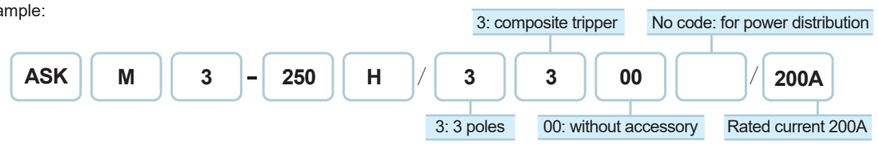
Model		ASKM3-63		ASKM3-100C	ASKM3-160				ASKM3-250				ASKM3-400				ASKM3-630				ASKM3-800		
Frame rating current Inm(A)		63		100	160				250				400				630				800		
No. of poles		3P/4P		3P/4P	3P/4P				3P/4P				3P/4P				3P/4P				3P/4P		
Rated current In(A)		10, 16, 20, 25, 32, 40, 50, 63		10, 16, 20, 25, 32, 40, 50, 63, 80, 100	10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 140, 160				100, 125, 140, 160, 180, 200, 225, 250				200, 225, 250, 315, 350, 400				400, 500, 630				400, 500, 630, 700, 800		
Rated insulation voltage Ui(V)		1000V		1000V	1000V				1000V				1000V				1000V				1000V		
Rated impulse withstand voltage Uimp(V)		8000V		8000V	12000V				12000V				12000V				12000V				12000V		
Rated operational voltage Ue(V)		AC400V/415V AC660V/690V																					
Arc distance		≥50(0)[2]		≥50(0)[2]	≥50(0)[2]				≥50(0)[2]				≥100(0)[2]				≥100(0)[2]				≥100(0)[2]		
Breaking capacity level		L	M	C	C	L	M	H	C	L	M	H	C	L	M	H	C	L	M	H	L	M	H
Ultimate short-circuit breaking capacity Icu(kA)	AC400V/415V	36	55	40	40	50	70	85	40	50	70	100	40	65	70	100	40	70	75	100	75	85	100
	AC660V/690V	10	12	12	12	12	20	20	12	12	20	20	15	15	20	20	20	20	30	30	20	30	30
Service short-circuit breaking capacity Ics(kA)	AC400V/415V	36	55	40	40	50	70	85	40	50	70	100	40	65	70	100	40	70	75	100	75	85	100
	AC660V/690V	10	12	12	12	12	20	20	12	12	20	20	15	15	20	20	20	20	30	30	20	30	30
Use category		A		A	A				A				A				A				A		
Electrical service life(times)[1]	AC400V/415V	8000		8000	8000				8000				7500				7500				7500		
	AC660V/690V	1500		1500	1500				1000				1000				1000				500		
Mechanical service life(times)[1]	without maintenance	20000		20000	20000				20000				10000				10000				10000		
	with maintainable	40000		40000	40000				40000				20000				20000				20000		
Outline dimensions (mm)	W(3P/4P)	75/100		75/100	92/122				107/142				150/198				182/240				210/280		
	L	130		130	150				165				257				270				280		
	H (not including handle)	60.5		60.5	92				90				105.5				110				114.5		

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 (ASKM3-63L/M, ASKM3-100C), 6.2mm for (ASKM3-160C/L/M/H), 8mm for (ASKM3-250C), 7.5mm for (ASKM3-250L/M/H), 9.3mm for (ASKM3-400C/L/M/H), ASKM3-630C/L/M/H), 9.5mm for(ASKM3-800L/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)

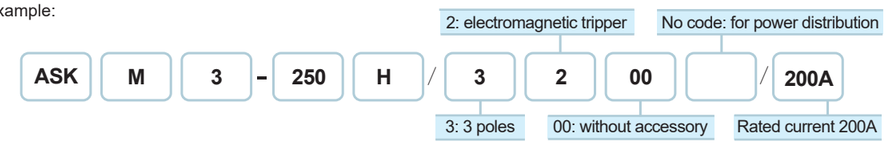
Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)		Action time
Short-circuit protection A/B/C pole	63	10~25	300		Act instantaneously
		32~63	10In		
	100C	10~25	300		
		32 ~100	10In		
	160	10~160	10In		
	250	100~140	10In		
		160~250	10In	5h can be customized	
	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	
		100C/160	10~63	In,Ir	
			80/100	63,630	Can customize: N pole overload protection current=In N pole short-circuit protection current=Ir
		160	125/140/160	100,1000	
		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 ASKM3-250H/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)	160~800	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		
	100C	10~25	300		
		32~100	10In		
	160	10~160	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		
		100C	10~25	300		
			32~63	10In		
			80/100	630(10h can be customized)		
		160	10~63			
			80/160	630	10In is available. Specify when ordering.	
		250	100~120	1000		
			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–POWER DISTRIBUTION 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:

ASK	M	3	–	250	H	/	3	3	00	2	/	200A
							3: 3 poles		00: without accessory			Rated current 200A
								3: composite tripper		2: for motor protection		

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	10~630	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(ASKM3-63L/M, ASKM3-100C) ⩽ 4 min(ASKM3-160L/M) ⩽ 8 min(ASKM3-250, 400, 630 and 800 In ⩽630A) 7.2In(cold state),0.5S<Tp⩽5S(ASKM3-63L/M, ASKM3-100C) 4S<Tp⩽10S(ASKM3-160L/M) 6S<Tp⩽20S(ASKM3-250,400,630 and 800 In⩽630A) Tripper level, 5(ASKM3-63L/M, ASKM3-1000C) 10(ASKM3-160L/M 20(ASKM3-250, 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	
	100C	10~25	300	
		32 ~100	12In	
	160	10~160	12In	
	250	100~250	12In	
	400	225~400	12In	
	630	400~630	12In	
	800	400~630	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	
		100C/160	10~63	In,Ir	
			80/100	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.
		160	125/140/160	100,1000	
		250	100~120	100,1200	
			225/250	125,1500	
		400	225~315	225,2700	
			350/400	250,3000	
		630	400~630	400,4800	
		800	400/500	400,4800	
			630	500,6000	
	A / B	Whole series	10~630	without protection	

PROTECTION CHARACTERISTIC PARAMETERS-POWER DISTRIBUTION 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:

ASK	M	3	–	250	H	/	3	2	00		/	200A
							3: 3 poles		00: without accessory			Rated current 200A
								2: electromagnetic tripper		No code: for power distribution		

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: the maximum rated current of motor protection MCCB is 630A. 63 frame does not have this function)	160~800	10~630	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)

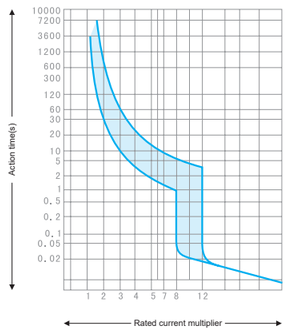
Protection Function	Frame Rating	Rated Current In(A)	Short-circuit protection current set value Ir(A)	Action time
Short-circuit protection A/B/C pole (Note: there is no product of 12In for 100C frame MCCB of 80A or 100A.)	63	10~25	300	Act instantaneously
		32~63	12In	
	100C	10~25	300	
		32~63	12In	
	160	10~160	12In	
	250	100~250	12In	
	400	225~400	12In	
	630	400~630	12In	
	800	400~630	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		
		100C	10~25	300		
			32~63	12In		
		160	10~63	12In		
			80/100	756	12In is available. Specify when ordering.	
		250	100/120	1200		
			225/250	1500		
		400	225~315	2700		
			350/400	3000		
		630	400~630	4800		
		800	400/500	4800		
			630	6000		
	A / B	Whole series	10~630	without protection		

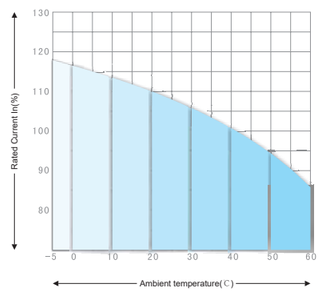
POWER DISTRIBUTION CIRCUIT BREAKER INVERSE TIME PROTECTION CHARACTERISTIC CURVE

63/100C/160 Frame 10A~32A

Action time

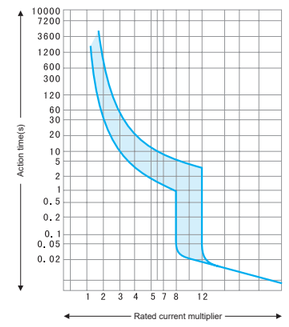


Temperature compensation curve

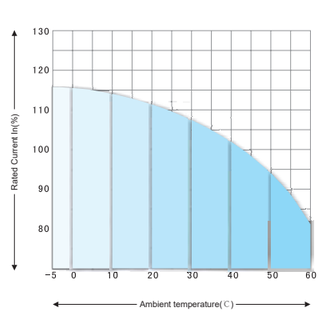


63/100C/160 Frame 40A~160A

Action time

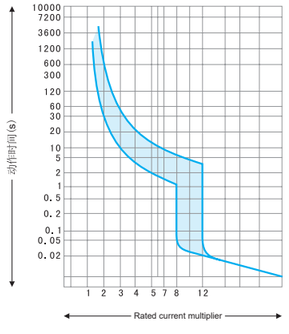


Temperature compensation curve

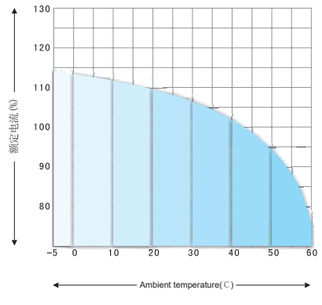


250 Frame

Action time



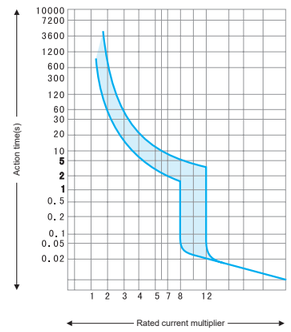
Temperature compensation curve



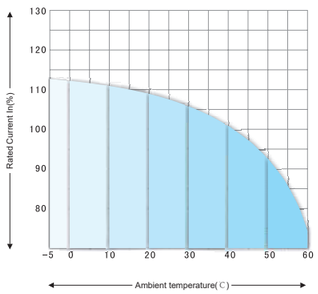
POWER DISTRIBUTION CIRCUIT BREAKER INVERSE TIME PROTECTION CHARACTERISTIC CURVE

400 Frame

Action time

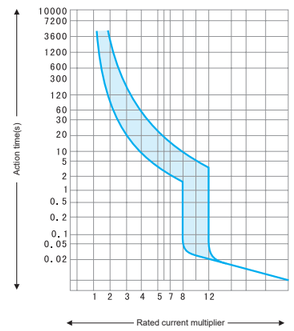


Temperature compensation curve

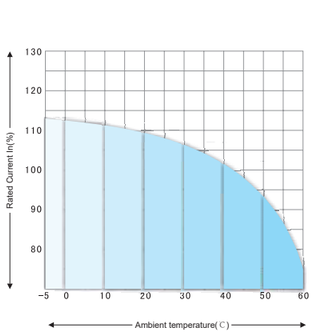


630 Frame

Action time

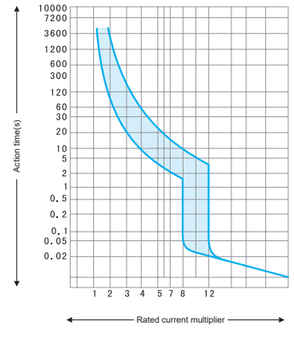


Temperature compensation curve

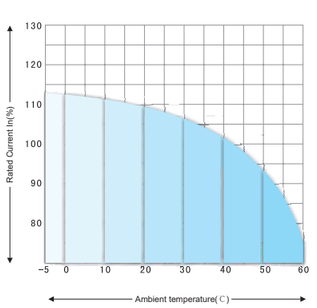


800 Frame

Action time



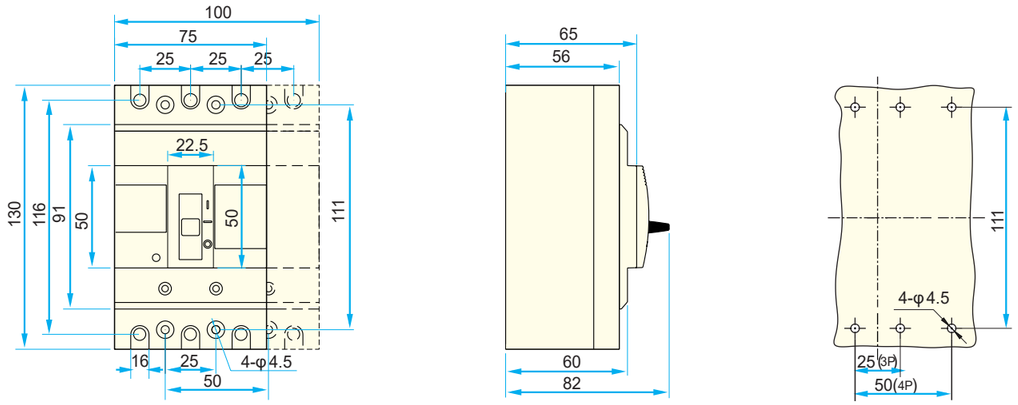
Temperature compensation curve



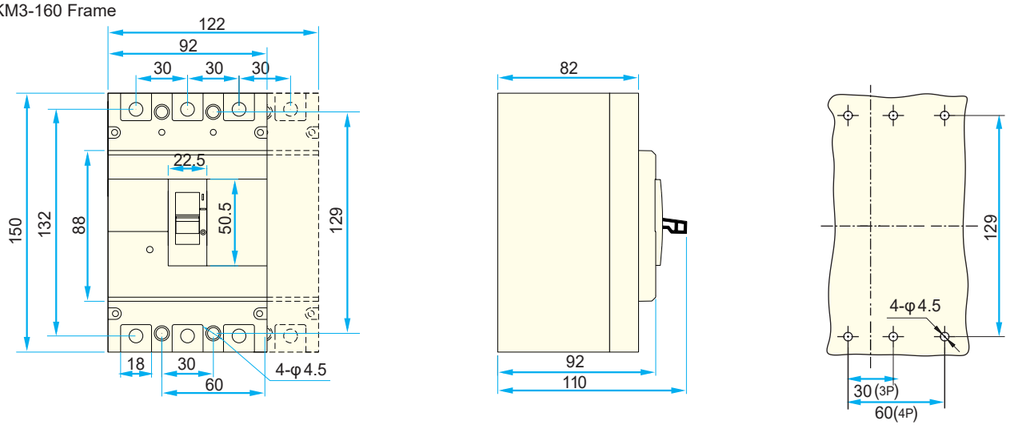
OUTLINE AND INSTALLATION DIMENSIONS

Front wiring

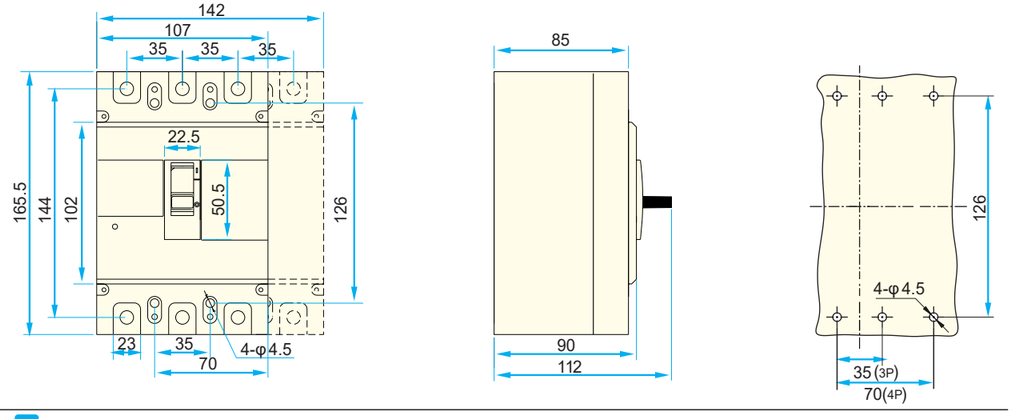
ASKM3-63 Frame/ASKM3-1000C Frame



ASKM3-160 Frame

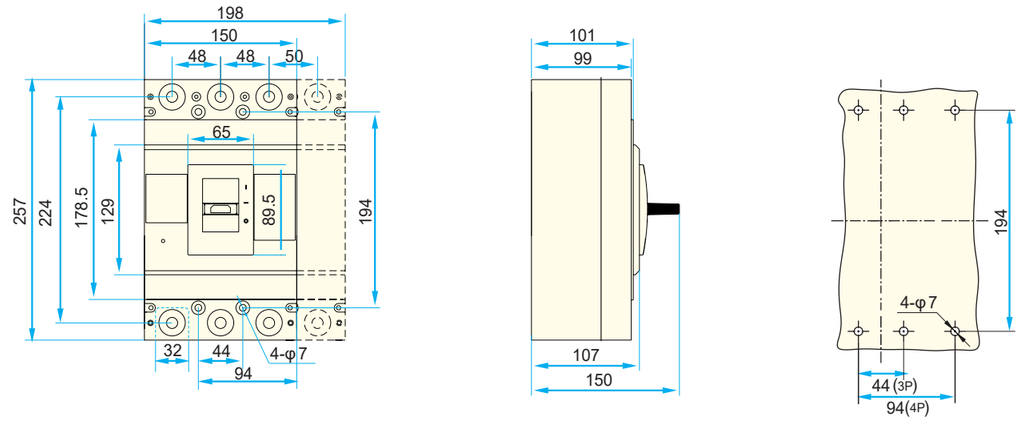


ASKM3-250 Frame

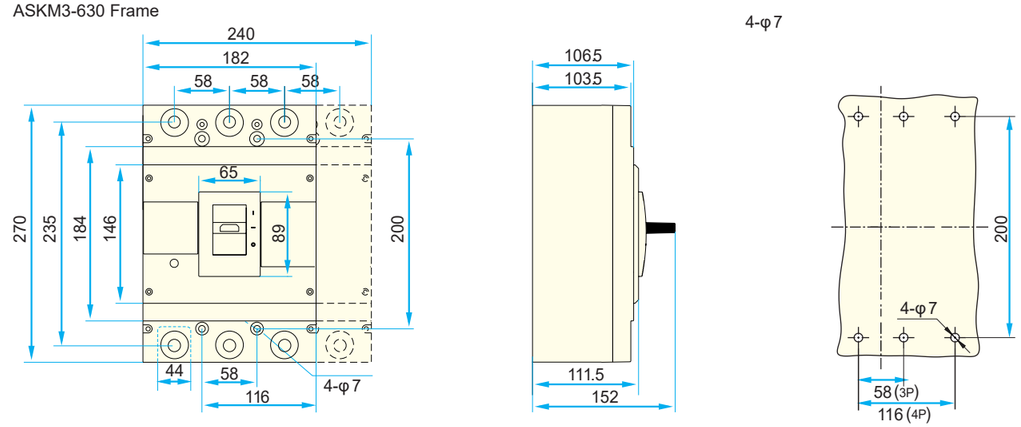


Front wiring

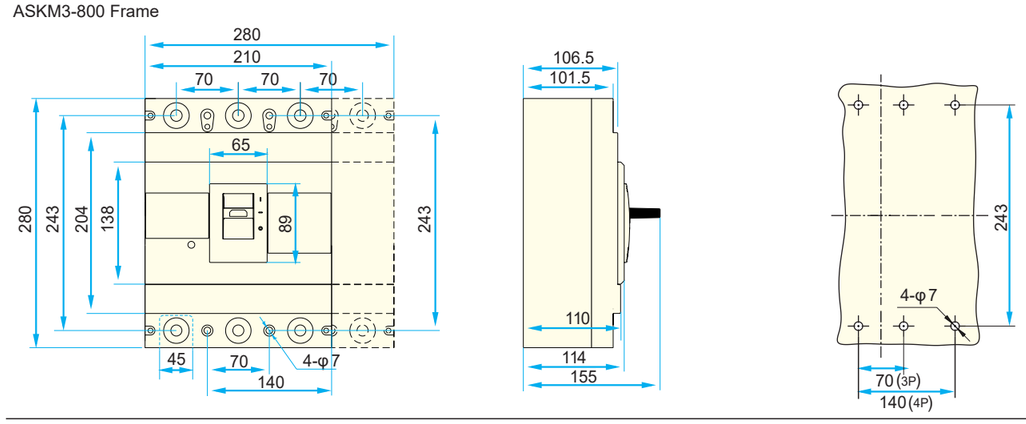
ASKM3-400 Frame



ASKM3-630 Frame



ASKM3-800 Frame



INTERNAL OPTIONAL ACCESSORIES

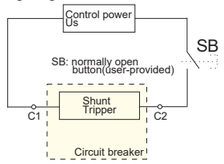
The ASKM3 thermomagnetic circuit breaker has five basic accessory modules available for optional installation inside the switch

Shunt Tripper MODEL: FJ-FT-ASKM3

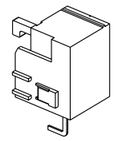
Usage:
Shunt tripper is used to remotely control the breaking of the circuit breaker. It is instantaneous working system. Long time energizing is prohibited. Each power-on time is recommended to be no more than 1s.
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable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

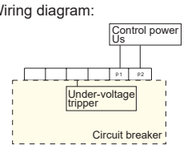


Under-voltage tripper MODEL: FJ-QT-ASKM3

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)

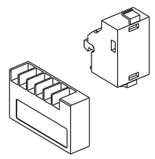
1.Control power voltage Us1: when Us1=(35%-70%)Ue, the under-voltage tripper can reliably break circuit breaker.
2.Control power voltage Us2: when Us2:Us2=(85%-110%)Ue, the circuit breaker can close normally.
3.Control power voltage Us3: when Us3≤35%Ue,the under-voltage tripper can prevent circuit breaker 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.

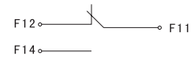
Outline:



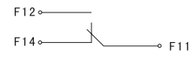
Auxiliary switch MODEL: FJ-FC-ASKM3

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

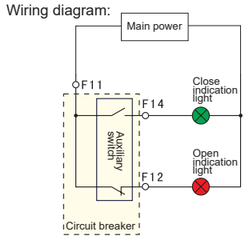


When circuit breaker is at closing position

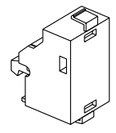


Conventional thermal current: Ith=3A

Wiring diagram:



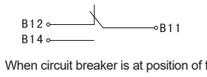
Outline:



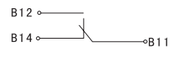
Alarm switch MODEL: FJ-BC-ASKM3

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

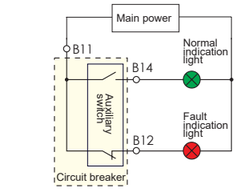


When circuit breaker is at position of free trip&fault trip

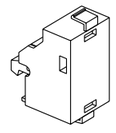


Conventional thermal current: Ith=3A

Wiring diagram:



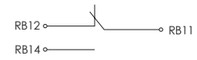
Outline:



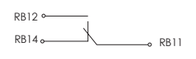
Overload alarm without tripping module MODEL: FJ-GZBJ-ASKM3

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

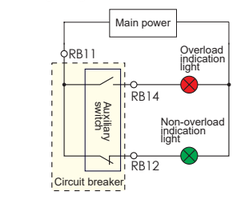


When circuit breaker is not overload

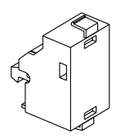


Conventional thermal current: Ith=3A

Wiring diagram:



Outline:



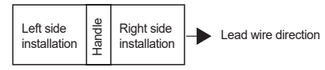
INTERNAL ACCESSORIES CODE TABLE

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



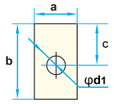
Code	Accessory	ASKM3-63 3P/4P	ASKM3-100C 3P/4P	ASKM3-160 3P/4P	ASKM3-250 3P/4P	ASKM3-400/630/800 3P/4P
00	No accessory					
08	Alarm switch					
10	Shunt tripper					
20	Auxiliary switch(1NO1NC)					
	Auxiliary switch(2NO2NC)					
02	Auxiliary switch(2NO2NC)					
30	Under-voltage tripper					
40	Shunt 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 ASKM3 circuit breaker.

Plug-in front wiring base(PF) MODEL: FJ-BQDZ-ASKM3

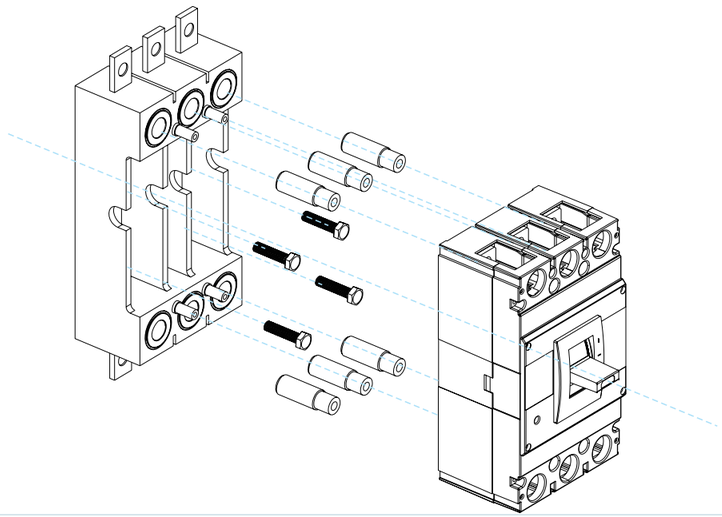
Usage:
The plug-in front wiring base is mounted on the back of the molded case circuit breaker, and is integrated with the breaker through conductive copper posts and fastening bolts. In the event of a serious circuit breaker failure, the circuit breaker can be quickly repaired and replaced without removing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



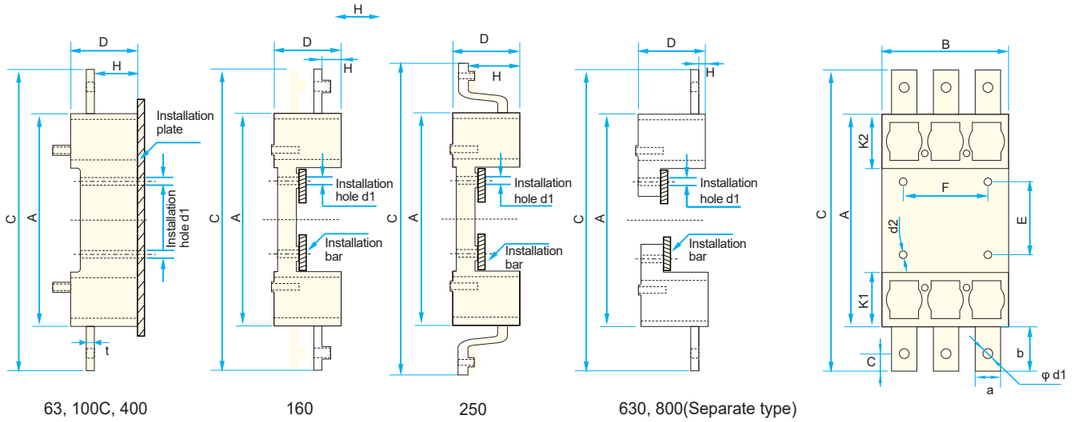
63-800 Frame

Frame	a	b	c	d1
63, 100C	13	16	8.5	5.5
160	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)

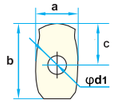
Frame	Outline and installation opening dimensions										
	A	B	C	D	E	F	H	K1	K2	d2	t
63A/100C	140	78	172	44	60	50	19	—	—	5	2
160A	172	96	214	50	60	66	15	38	38	7	3
250A	183	110	258	51.5	64	70	46	44	44	7	3
400A	277	150	352	80	135	115	31	—	—	7	6
630A	334	180	434	84	123	100	22	65	65	8.5	8
800A	304	210	404	87	144	91	13	62	62	11	8

External Optional Accessory- Plug-in Rear Wiring Base

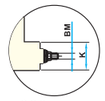
Optional plug-in rear wiring base is available for ASKM3 circuit breaker.

Plug-in rear wiring base(PR) MODEL: FJ-BHDZ-ASKM3

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)



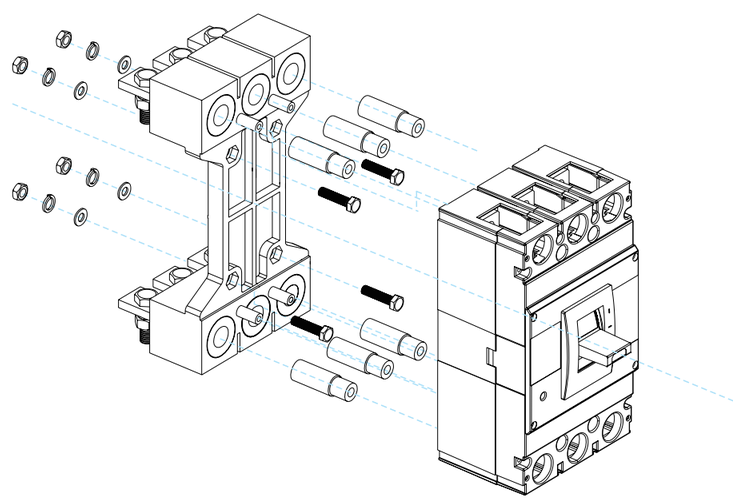
63-800 Frame



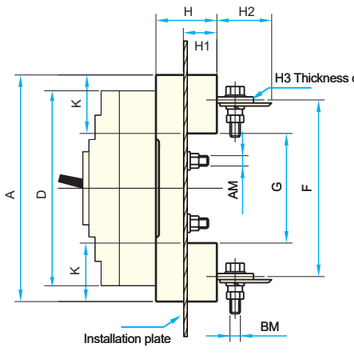
800 Frame

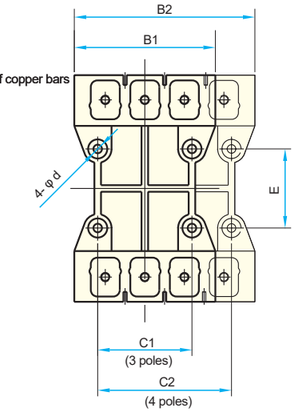
Frame	a	b	c	d1
63, 100C	10	18	8	6
160	18	34	18	8
250	21	36	20	8
400	30	43	22	12
630	32	46	17	12
800	BM=(Bolt outlet wire)			

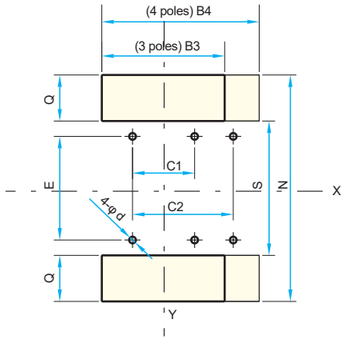
Installation schematic diagram:



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
63A100C	135	75	100	50	75	130	60	116	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	165.5	54	144	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	235	169	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

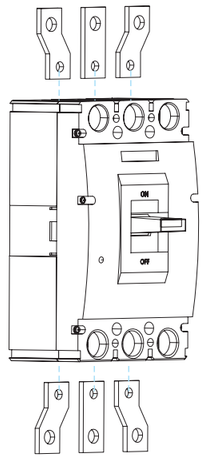
External Optional Accessory- Front Extended Copper Bars

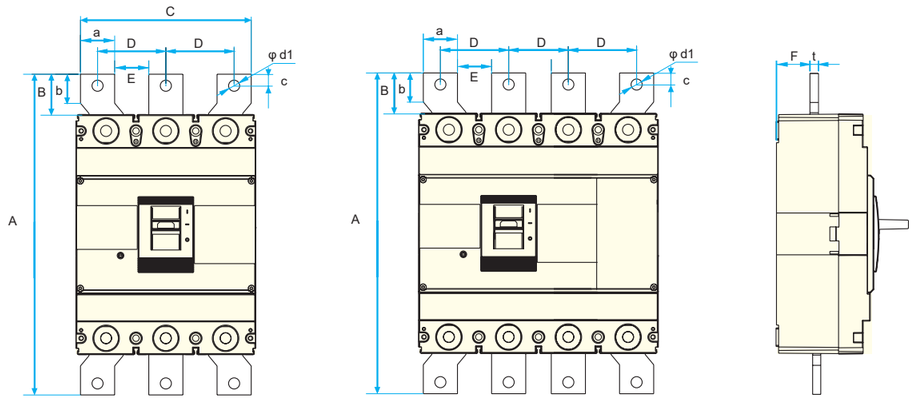
Optional front extended wiring is available for ASKM3 circuit breaker.

Front extended copper bards(C)	MODEL: FJ-BQJC-ASKM3

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/100C	181	25	76	32	20	24	12	15	6	6	4
160A	197	23	93	39	24	28.5	15	15	7.5	8.5	4
250A	245	40	104	42	22	22.5	20	23	9	9	5
400A	340	41	148	60	32	38	28	25	15	14	6
630A	368	49	176	68	28	41	40	34	14	13	7.8
800A	376	48	200	80	40	41	40	34	14	13	10

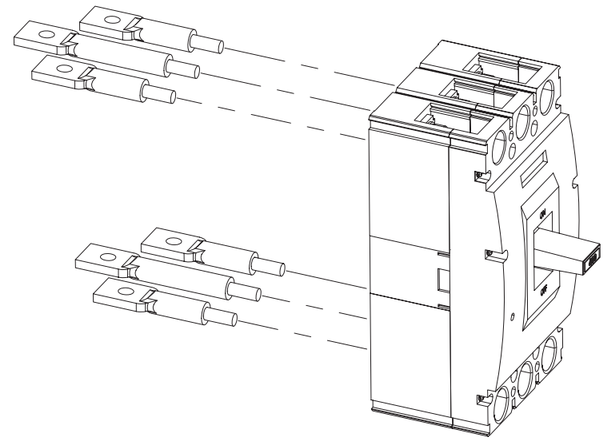
External Optional Accessory- Rear Copper Bars

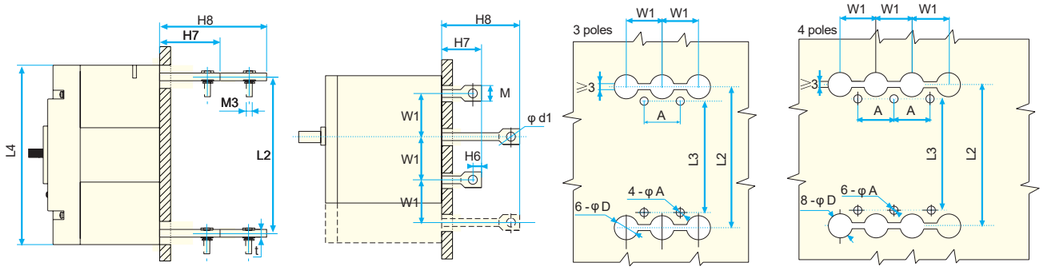
Optional real wiring is available for ASKM3 circuit breaker

Rear wiring(R)	MODEL: FJ-BQJC-ASKM3

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/100C	160A	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	116	132	144	224	235	243
L3	111	129	126	194	200	243
L4	130	150	165.5	257	270	280
W1	25	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 ASKM3 circuit breaker.

Electric Operating Mechanism- CD1

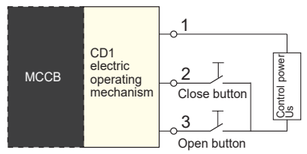
MODEL: FJ-DC/CD1- ASKM3- 250

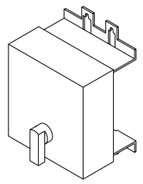
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally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

Applicable frame: 63, 100C, 160, 250
Standard wiring method: Lead wire type

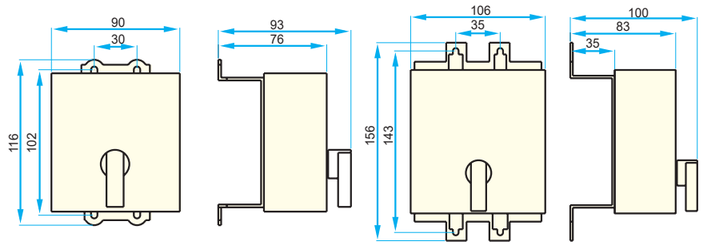
Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V

Wiring diagram:





Installation schematic diagram:



Applicable frame: 63, 100C

Applicable frame: 250

Electric Operating Mechanism- CD1

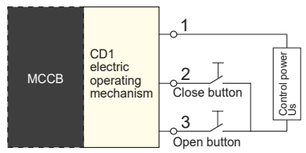
MODEL: FJ-DC/CD1- ASKM3- 400

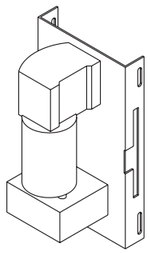
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally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

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

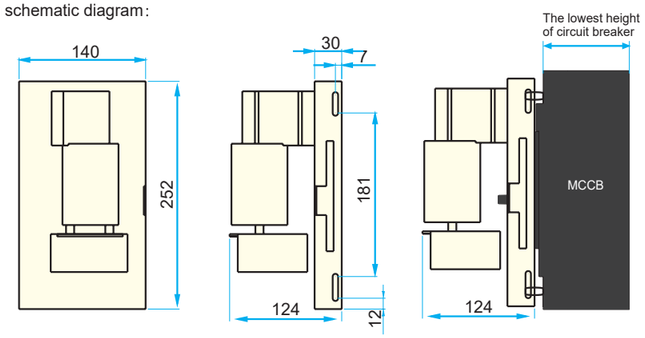
Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V
DC 220V

Wiring diagram:





Installation schematic diagram:



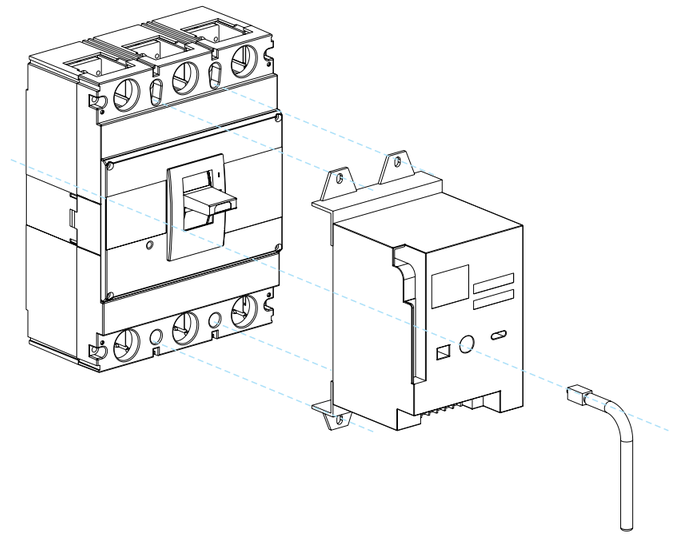
Electric Operating Mechanism- CD2

MODEL: FJ-DC/CD2- ASKM3

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.

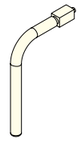
Applicable frame: 63-800 whole series
Standard wiring method: Terminal type

Wiring diagram:



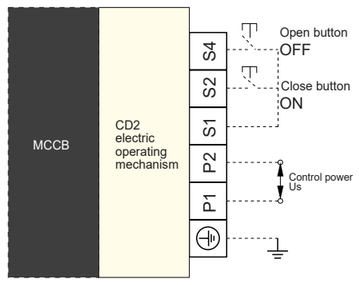
Manual handle:
frame 63, 100C,160, 250

frame 400, 630, 800

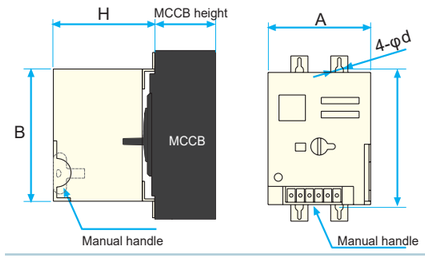


Control power: Us=(70%-110%) Ue
Frequency: 50Hz
Ue:rated operational voltage of shunt tripper
Default voltage:AC 220V
Optional voltage: AC 110V
DC 220V
DC110V
DC 24V

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			
ASKM3-63	90	116	94	4.5	≤0.5	14000	14
ASKM3-100C	90	116	94	4.5	≤0.5	14000	14
ASKM3-125	90	116	94	4.5	≤0.5	14000	14
ASKM3-250	90	116	90	4.5	≤0.5	14000	14
ASKM3-400	130	176	143	6.5	≤2	5000	35
ASKM3-630	130	176	147	6.5	≤2	5000	35
ASKM3-800	130	176	147	6.5	≤2	5000	35

External Optional Accessory-Manual Operating Mechanism

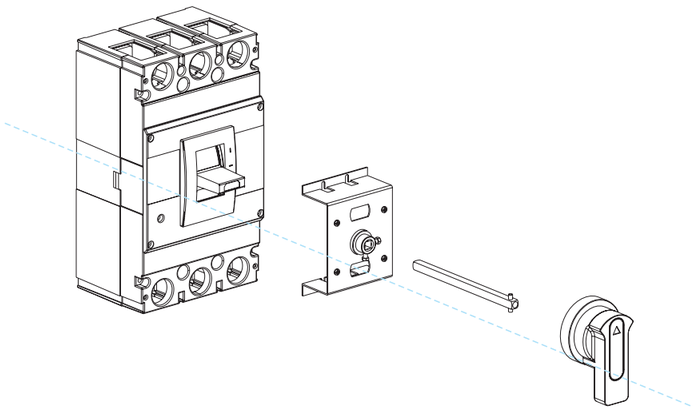
Optional manual operating mechanism is available for ASKM3 circuit breaker.

Manual operating mechanism	MODEL: FJ-SC- ASKM3

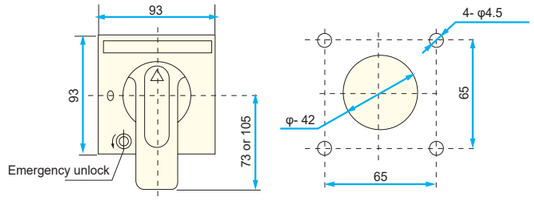
Usage:
The manual operating mechanism is installed on the front of the circuit breaker. Through rotating handle, it realizes the requirement of operation on the panels of drawer cabinet, distribution cabinet, power box, etc. It also provides the function of interlocking between the circuit breaker and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

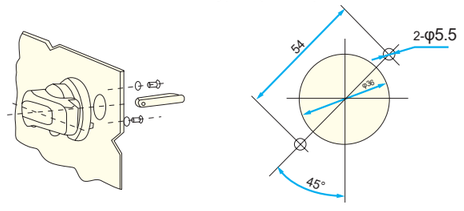


Square handle dimensions: type F



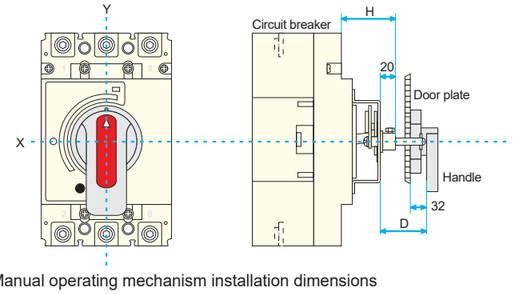
Square handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

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	ASKM3-63	ASKM3-125	ASKM3-250	ASKM3-400	ASKM1-630	ASKM3-800
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

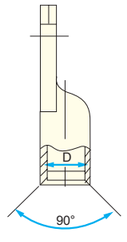
Rated current(A)	Cable		Copper bars	
	Cross section area(mm²)	Quantity	Size(mm×mm)	Quantity
500	150	2	30x5	2
630	185	2	40x5	2
700/800	240	2	50x5	2

MODEL OF WIRING TERMINALS

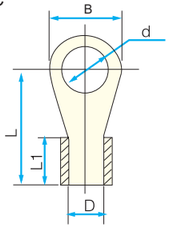
JGC\JBC wiring terminal reference dimension

JGC

JGC

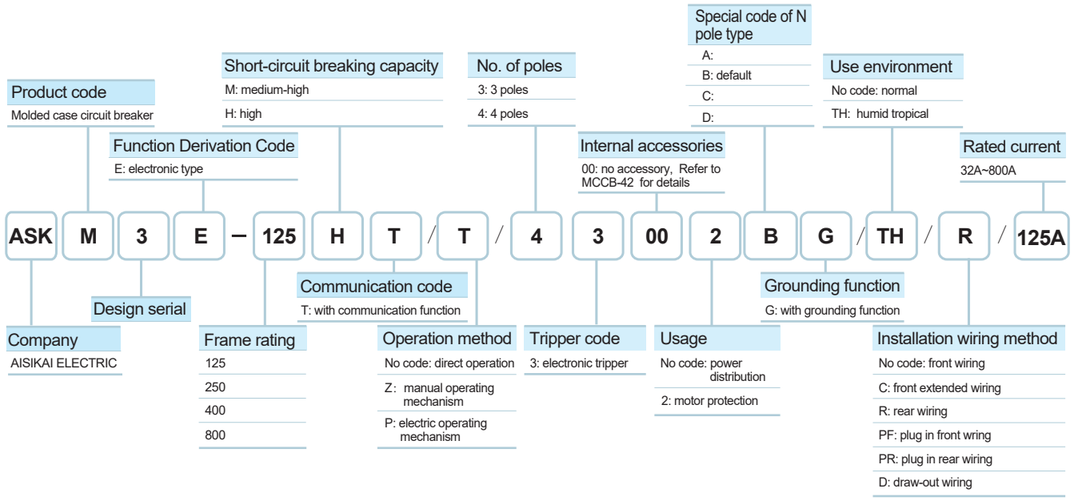


JBC



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
100C	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

ASKM3E INTELLIGENT NORMAL 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.
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

ASKM3E

Model definition 1:

ASKM3E-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:

ASKM3E-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

ASKM3E 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 800: can be divided into 2 grades (rated 630A, rated 800A). For each grade,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

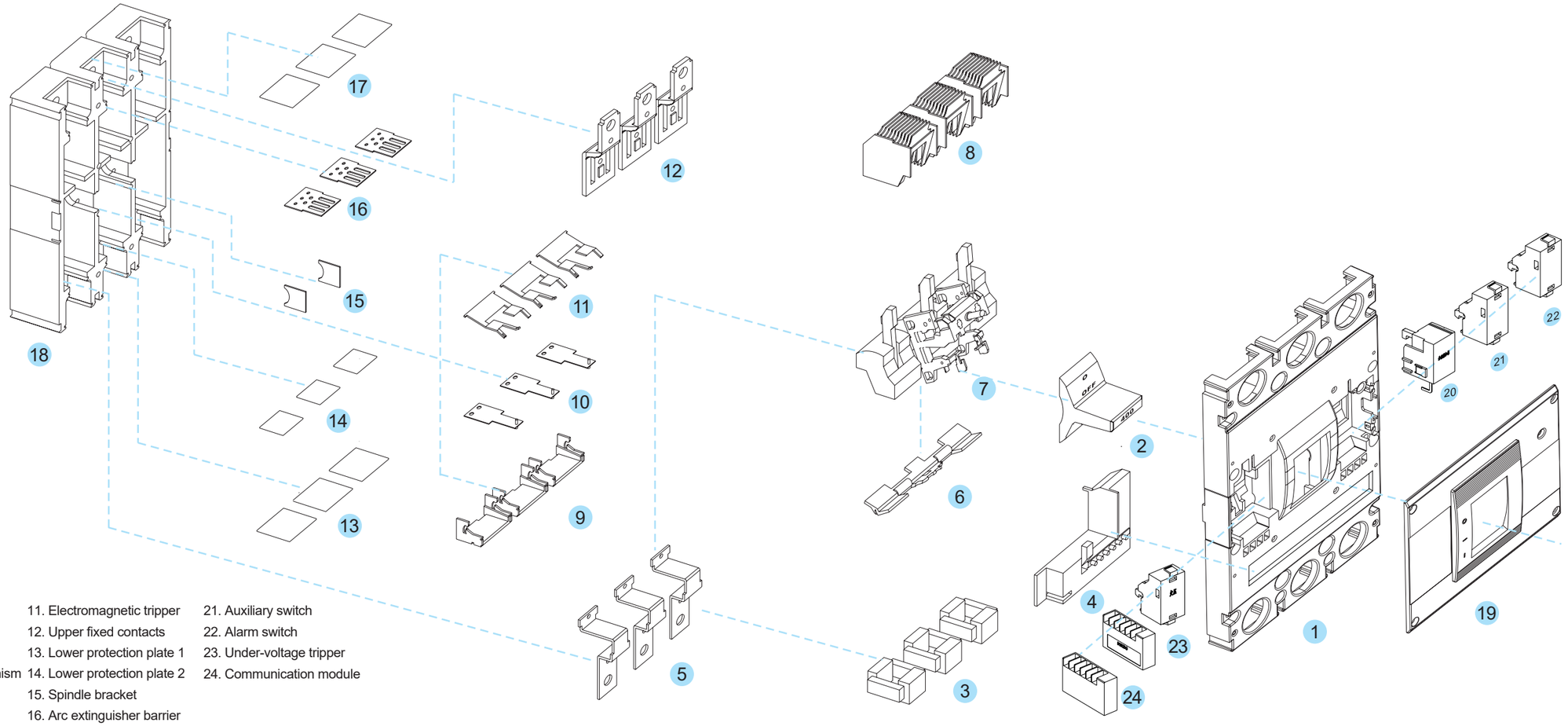
APPLICATIONS

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. Circuit board tripping mechanism
5. Lower fixed contacts
6. Tripper
7. Moving contacts combination
8. Arc extinguisher
9. Electromagnetic tripper base
10. Thermomagnetic tripper
11. Electromagnetic tripper
12. Upper fixed contacts
13. Lower protection plate 1
14. Lower protection plate 2
15. Spindle bracket
16. Arc extinguisher barrier
17. Upper protection plate
18. Base
19. Face cover
20. Shunt tripper
21. Auxiliary switch
22. Alarm switch
23. Under-voltage tripper
24. 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.

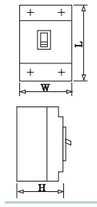
Protection value can be adjusted	Under-voltage tripper	Shunt tripper
According to the on-site situations, use the knobs on the front of the molded case circuit breaker to adjust the following parameters: 1. overload long delay action current and time ; 2. short-circuit short delay action current and 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		ASKM3E-125			ASKM3E-250		ASKM3E-400	ASKM3E-630	ASKM3E-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

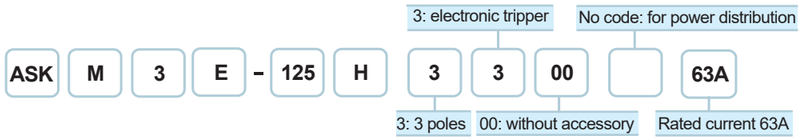


*Note: According to GB/T14048.1, the term of “service life” indicates the probability that an appliance will complete a number of operating cycles before repairing or replacing a component.

**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.

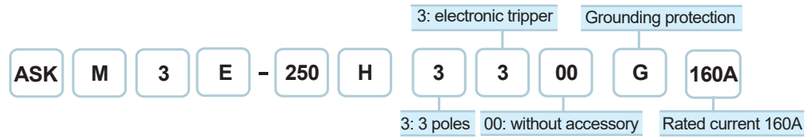
Protection Function	Frame Rating (Inm)	Rated Current In(A)	Setting Current Ir1=(0.4-1) In(A)	Action Characteristics/time
Overload long delay L	125	32	Ir1=12.5-14-16-18-20-22-25-28-30-32	Act by I²rt 1.05Ir1: no act within 2 h 1.3Ir1: act within 1h 2Ir1: t1=12s adjustable parameters: t1= off/60/80/100s(125/250) 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.

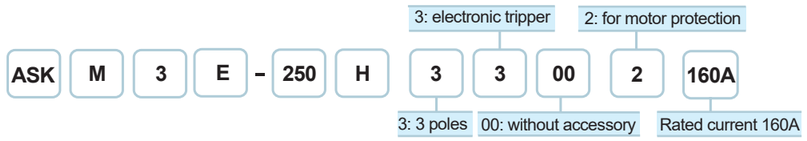
Protection Function	Frame Rating (Inm)	Rated Current In(A)	Setting Current Ir1=(0.4-1) In(A)	Action Characteristics/time
Overload long delay L	125	32	Ir1=12.5-14-16-18-20-22-25-28-30-32	Act by I²rt 1.05Ir1: no act within 2 h 1.3Ir1: act within 1h 2Ir1: t1=12s adjustable parameters: t1= off/60/80/100s(125/250) 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				± 20%				

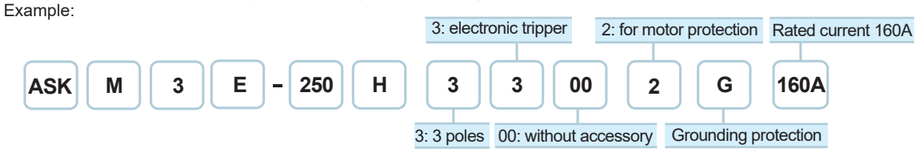
Note: there is no rated current 800A product in motor protection circuit breaker.

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=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%				

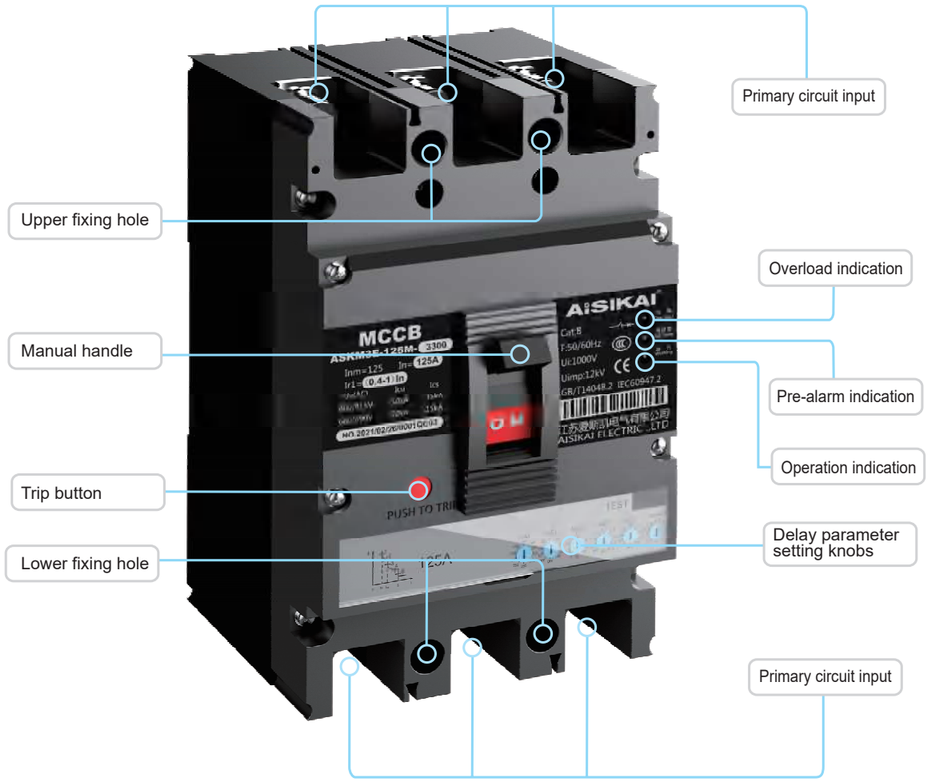
Note: there is no rated current 800A product in motor protection circuit breaker.

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%		

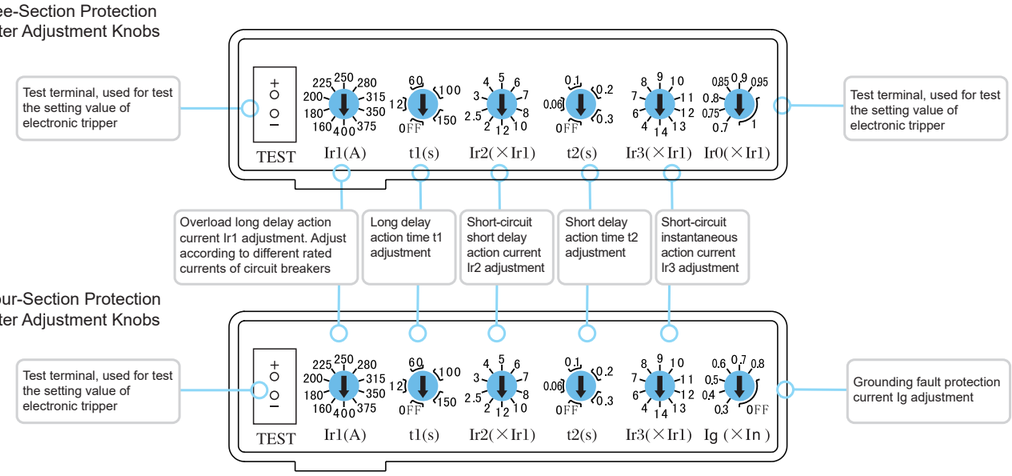
Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current Setting Value(A)	Action Characteristics / time
Short-circuit instantaneous I	125	32-125	Ir3=10Ir1, adjustable parameters: Ir3=(4-14)Ir1	Act instantaneously
	250/400/800	160-630		
Action allowed error			± 15%	
Neutral pole protection 4 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



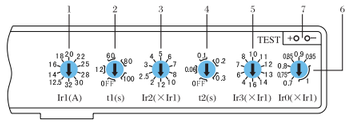
LSI Three-Section Protection Parameter Adjustment Knobs



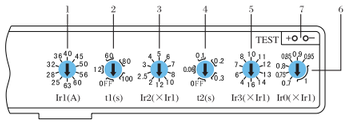
LSIG Four-Section Protection Parameter Adjustment Knobs

ELECTRONIC OVER-CURRENT TRIPPER SETTING VALUE

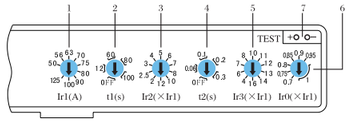
ASKM1E-125, In=32A electronic over-current tripper



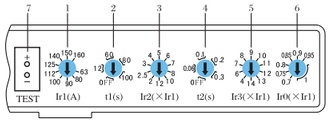
ASKM1E-125, In=63A electronic over-current tripper



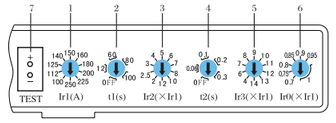
ASKM1E-125, In=125A electronic over-current tripper



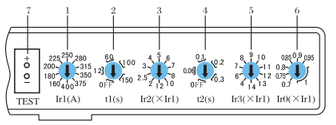
ASKM1E-250, In=160A electronic over-current tripper



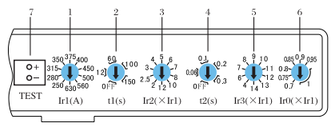
ASKM1E-250, In=250A electronic over-current tripper



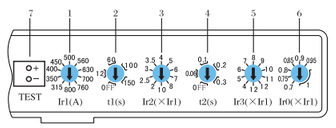
ASKM1E-400, In=400A electronic over-current tripper



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

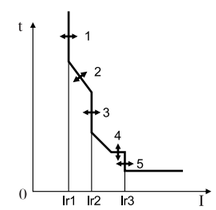


ASKM1E-800, In=800A electronic over-current tripper



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.

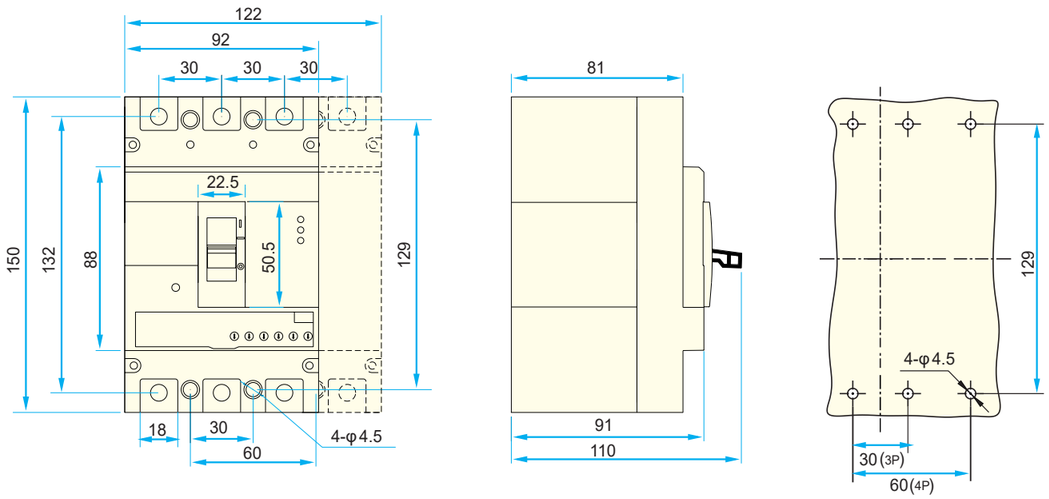
ELECTRONIC OVER-CURRENT TRIPPER PROTECTION CHARACTERISTIC CURVE



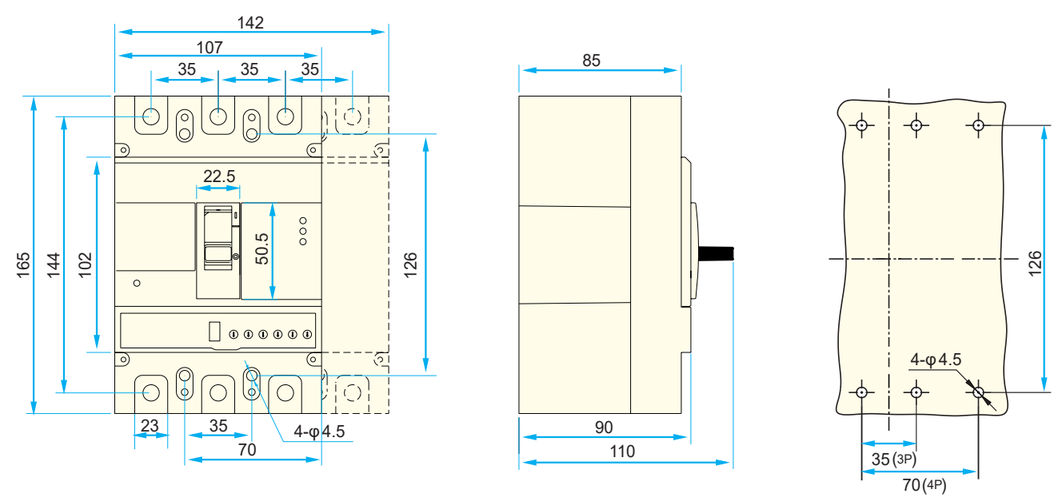
OUTLINE AND INSTALLATION DIMENSIONS

Front wiring

ASKM3E-125 Frame

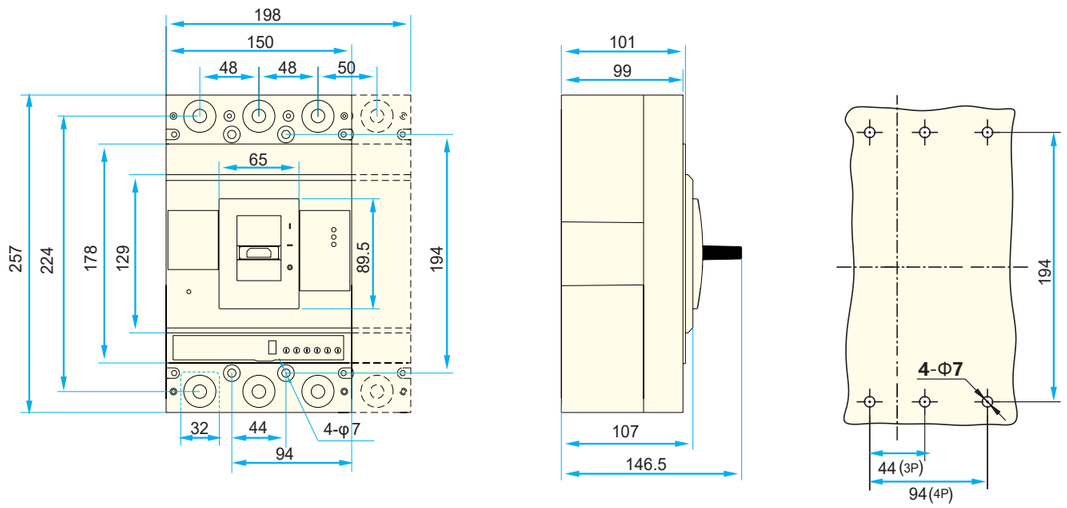


ASKM3E-250 Frame

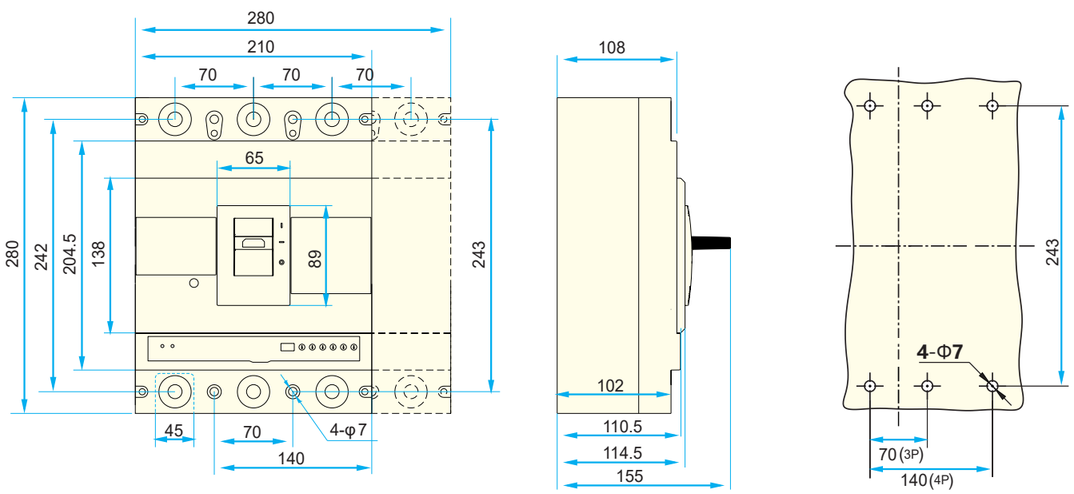


Front wiring

ASKM3E-400 Frame



ASKM3E-630/800 Frame



INTERNAL OPTIONAL ACCESSORIES

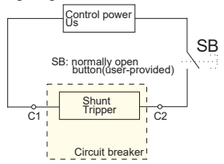
The ASKM3E electronic circuit breaker has five basic accessory modules available for optional installation inside the switch.

Shunt Tripper MODEL: FJ-FT-ASKM3E

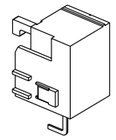
Usage:
Shunt tripper is used to remotely control the breaking of the circuit breaker. It is instantaneous working system. Long time energizing is prohibited. Each power-on time is recommended to be no more than 1s.
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable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

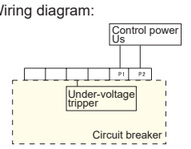


Under-voltage tripper MODEL: FJ-QT-ASKM3E

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)

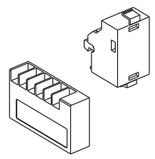
1.Control power voltage Us1: when Us1=(35%-70%)Ue, the under-voltage tripper can reliably break circuit breaker.
2.Control power voltage Us2: when Us2:Us2=(85%-110%)Ue, the circuit breaker can close normally.
3.Control power voltage Us3: when Us3≤35%Ue, the under-voltage tripper can prevent circuit breaker 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.

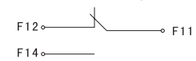
Outline:



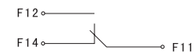
Auxiliary switch MODEL: FJ-FC-ASKM3E

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

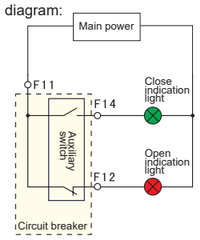


When circuit breaker is at closing position

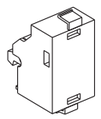


Conventional thermal current: Ith=3A

Wiring diagram:



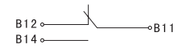
Outline:



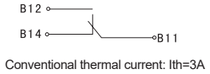
Alarm switch MODEL: FJ-BC-ASKM3E

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

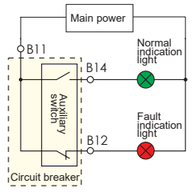


When circuit breaker is at position of free trip&fault trip

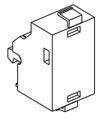


Conventional thermal current: Ith=3A

Wiring diagram:



Outline:

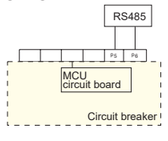


Communication module MODEL: FJ-TXMK-ASKM3E

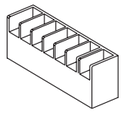
Usage:
By installing communication module, the circuit breaker has communication function, remote communication, remote measurement, and data can be uploaded in real time.
Standard outlet wire type: terminal

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

Wiring diagram:



Outline:



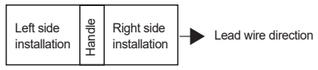
INTERNAL ACCESSORIES CODE TABLE

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	ASKM3E-125/250		ASKM3E-400		ASKM3E-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					

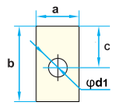
External Optional Accessory- Plug-in Front Wiring Base

Optional plug-in front wiring base is available for ASKM3E electronic circuit breaker.

Plug-in front wiring base(PF) MODEL: FJ-BQDZ-ASKM3E

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.

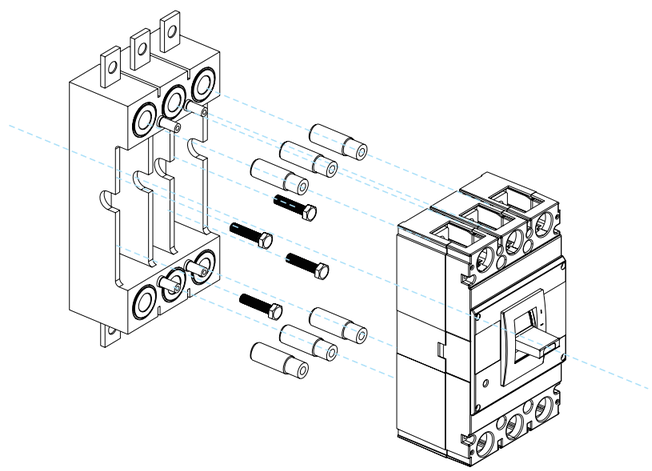
Copper bars dimensions(mm)



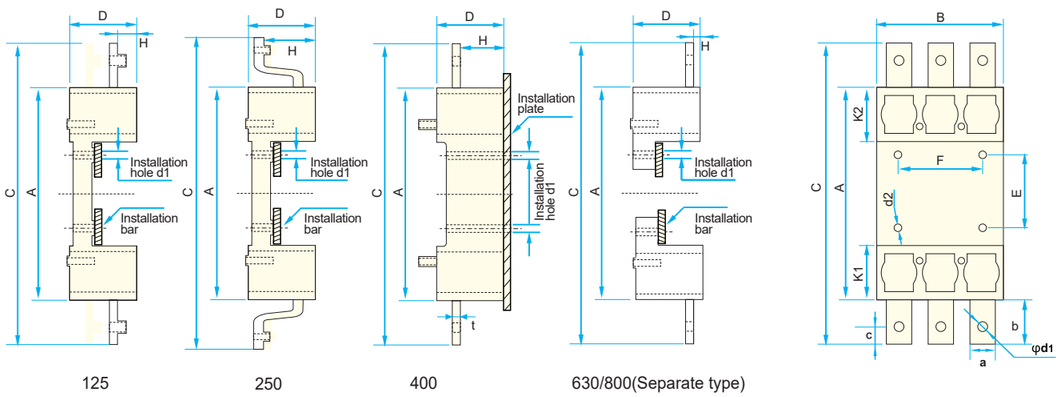
125-800 Frame

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

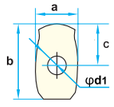
External Optional Accessory- Plug-in Rear Wiring Base

Optional plug-in rear wiring base is available for ASKM3E electronic circuit breaker.

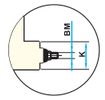
Plug-in rear wiring base(PR) MODEL: FJ-BHDZ-ASKM3E

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)



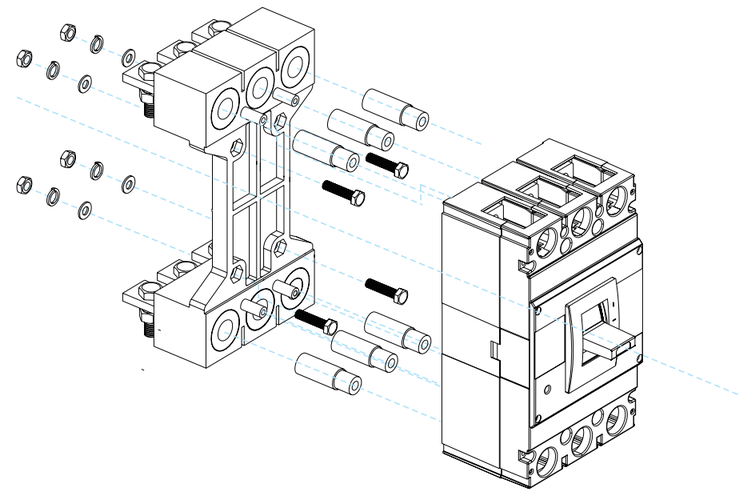
125-400 Frame



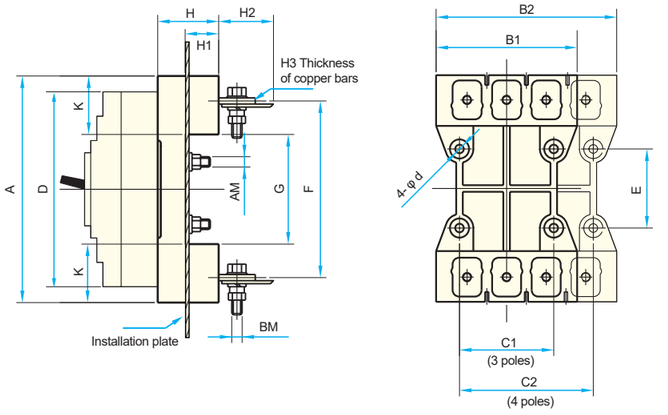
800 Frame

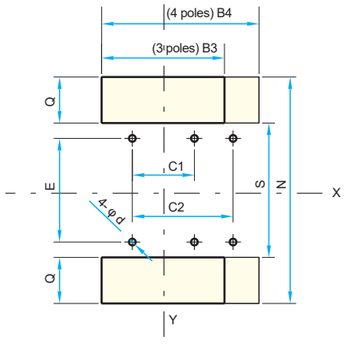
Frame	a	b	c	d1
125	18	34	18	8
250	21	36	20	8
400	30	43	22	12
630/800	BM=M14(Bolt outlet wire)			

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	144	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

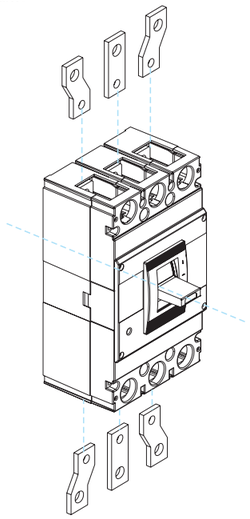
External Optional Accessory- Front Extended Copper Bars

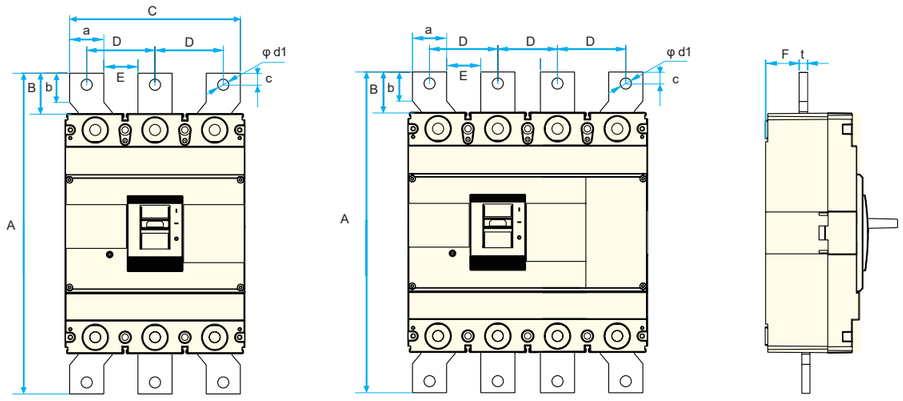
Optional front extended wiring is available for ASKM3E electronic circuit breaker.

Front extended copper bards(C)	MODEL: FJ-BQDZ-ASKM3E

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	22.5	20	23	9	9	5
400A	340	41	148	60	32	38	28	25	15	14	6
630/800A	376	48	200	80	40	41	40	34	14	13	10

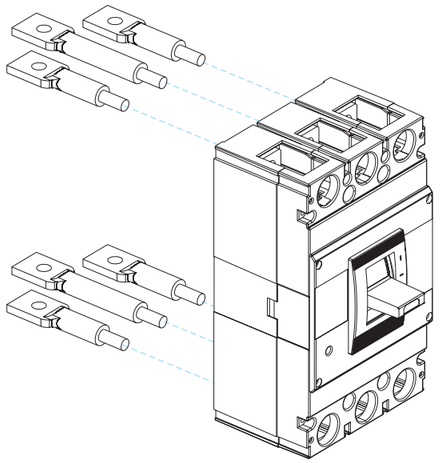
External Optional Accessory- Rear Copper Bars

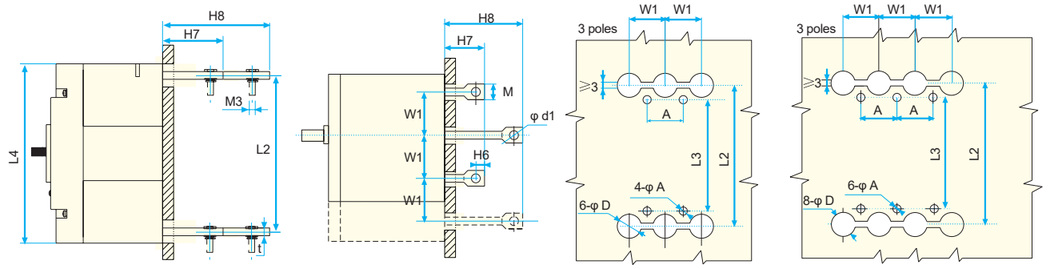
Optional rear wiring is available for ASKM3E electronic circuit breaker.

Rear wiring(R)	MODEL: FJ-BHJX-ASKM3E

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

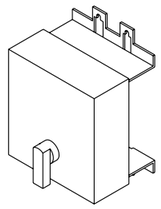
External Optional Accessory-Electric Operating Mechanism

Optional CD1 type or CD2 type electric operating mechanism is available for ASKM3E electronic circuit breaker.

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1-ASKM3E-250

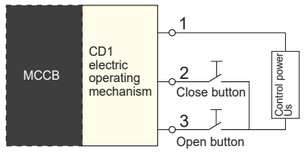
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally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

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

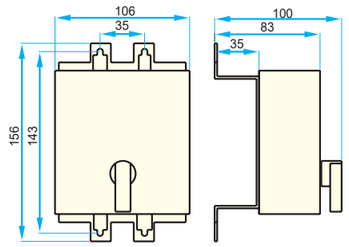


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V

Wiring diagram:



Installation schematic diagram:

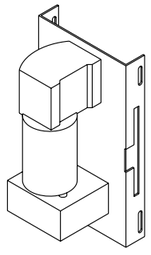


Applicable frame: 125, 250

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1-ASKM3E-400

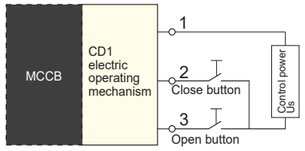
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally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

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

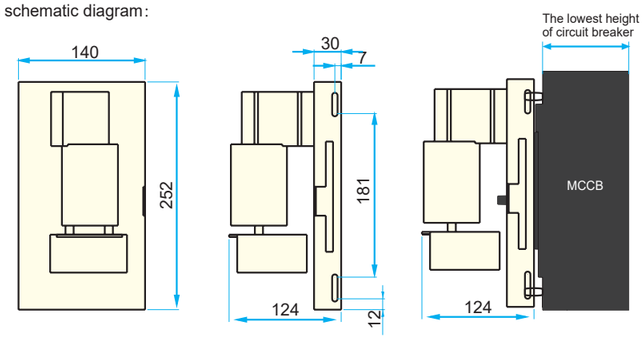


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V
DC 220V

Wiring diagram:



Installation schematic diagram:

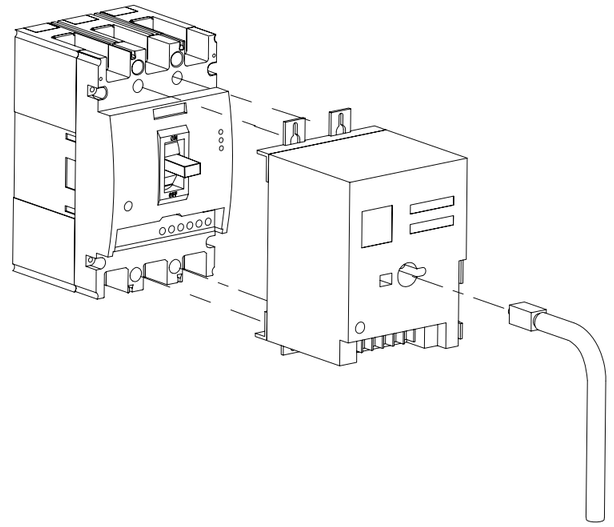


Electric Operating Mechanism- CD2 — MODEL: FJ-DC/CD2-ASKM3E

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.

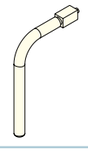
Applicable frame: 125-800 whole series
Standard wiring method: Terminal type

Wiring diagram:



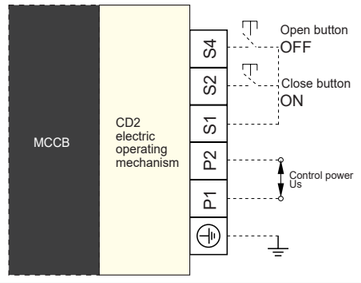
Manual handle:
frame 63, 125, 250

frame 400, 630, 800

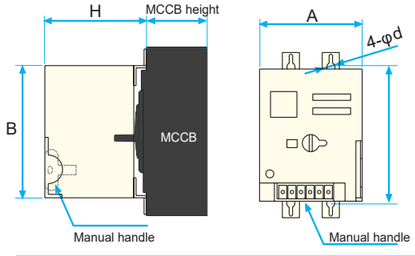


Control power: Us=(70%-110%) Ue
Frequency: 50Hz
Ue:rated operational voltage of shunt tripper
Default voltage:AC 220V
Optional voltage: AC 110V
DC 220V
DC 110V
DC 24V

Wiring diagram:



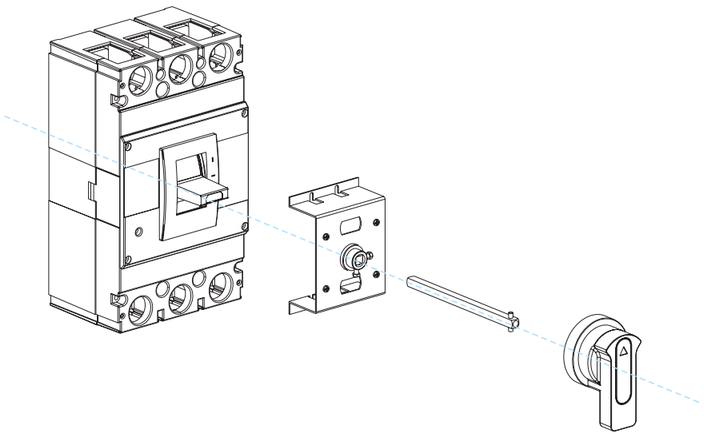
Installation schematic diagram:



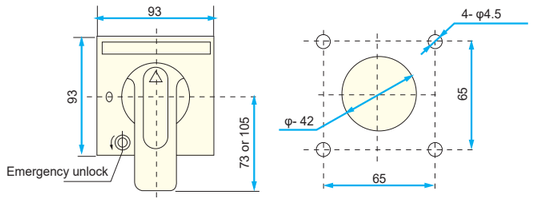
Model	Outline and installation dimensions(mm)				Action current (A)	Mechanical service life	Motor power (w)
	A	B	H	4-φd			
ASKM3E-125	90	116	94	4.5	≤0.5	14000	14
ASKM3E-250	90	116	90	4.5	≤0.5	14000	14
ASKM3E-400	130	176	143	6.5	≤2	5000	35
ASKM3E-630,800	130	176	147	6.5	≤2	5000	35

External Optional Accessory-Manual Operating Mechanism

Optional manual operating mechanism is available for ASKM3E electronic circuit breaker.

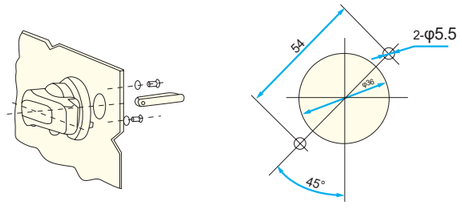
Manual operating mechanism	MODEL: FJ-SC- ASKM3E
Usage: The manual operating mechanism is installed on the front of the circuit breaker. Through rotating handle, it realizes the requirement of operation on the panels of drawer cabinet, distribution cabinet, power box, etc. It also provides the function 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



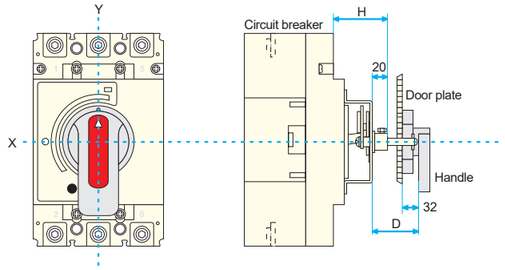
Square handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

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	ASKM3E-125	ASKM3E-250	ASKM3E-400	ASKM3E-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

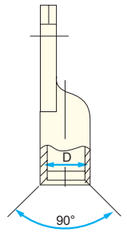
Rated current(A)	Cable		Copper bars	
	Cross section area(mm²)	Quantity	Size(mm×mm)	Quantity
500	150	2	30x5	2
630	185	2	40x5	2
700/800	240	2	50x5	2

MODEL OF WIRING TERMINALS

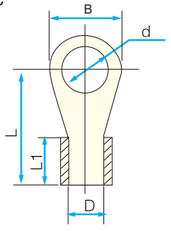
JGC\JBC wiring terminal reference dimension

JGC

JGC

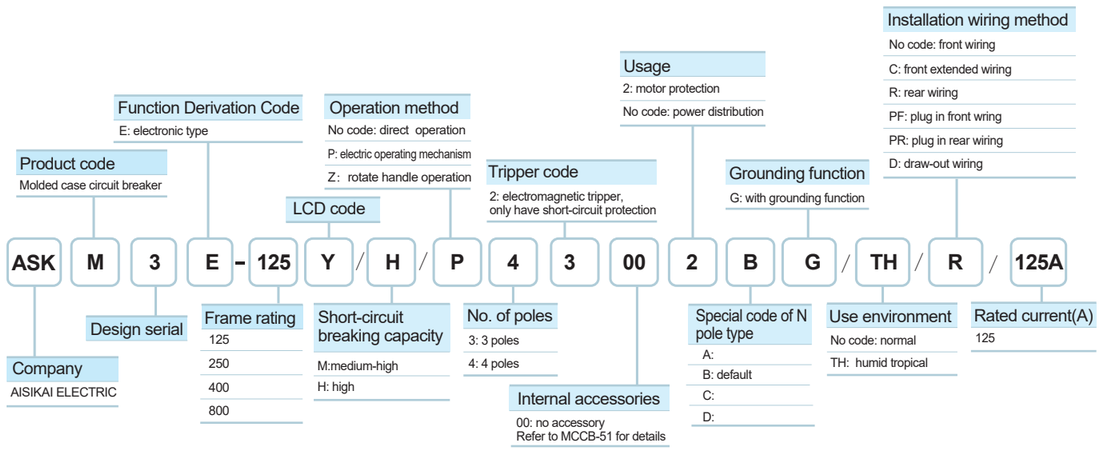


JBC



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

ASKM3E-Y LCD INTELLIGENT ELECTRONIC NORMAL PROTECTION MCCB 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)

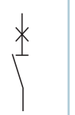
A: N poles does not have over-current tripper. N pole is always closed and does not break/close along with the other three poles.

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



ASKM3E-Y

Model definition 1:

ASKM3E-125YH/ P/ 43002/ TH/ R/ 63A

1. LCD 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:

ASKM3E-250YM/ 3300/ 160A

1. LCD electronic protection molded circuit breaker, 250A frame, medium-high breaking capacity, manual operation(implicit);
2. 3 poles, electronic tripper, no accessory;
3. for power distribution (implicit), 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

ASKM3E-Y LCD INTELLIGENT ELECTRONIC NORMAL PROTECTION MCCB

OVERVIEW

- ASKM3E-Y 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 wiring method**
  Front wiring, extended front wiring, rear wiring, plug in front wiring, 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

- **Compatible and Small**
  Have rich functions, small size and reliable operation

Excellent Performance

The ultimate short-circuit breaking capacity is up to 100KA. The operation life is up to 40000 times. Rated impulse withstand voltage is up to 12KV. With isolation function, High reliability, correct indication, excellent performance.

Meet Requirements of Intelligent Management

Integrated protection functions of overload, short-circuit, under-voltage, over-voltage, phase-loss, zero-loss. Can install all kinds of accessories, auxiliary, alarm, under-voltage, shunt, etc, meeting requirements of all kinds of controls.

Comply with The Requirements of "Low Voltage Circuit Breaker Communication Statute”

Built-in RS485 communication interface. With remote measurement, remote communication, remote control, remote adjustment and other functions to achieve intelligent management of the power grid.

User Friendly Man-Machine Interface

It adopts large LCD display, which automatically and cyclically displays real-time current, voltage, product breaking and closing status, fault tripping cause, fault tripping phase sequence and tripping parameters, with clear operation interface. Users can easily realize the control and parameter adjustment of circuit breaker on the circuit breaker panel.

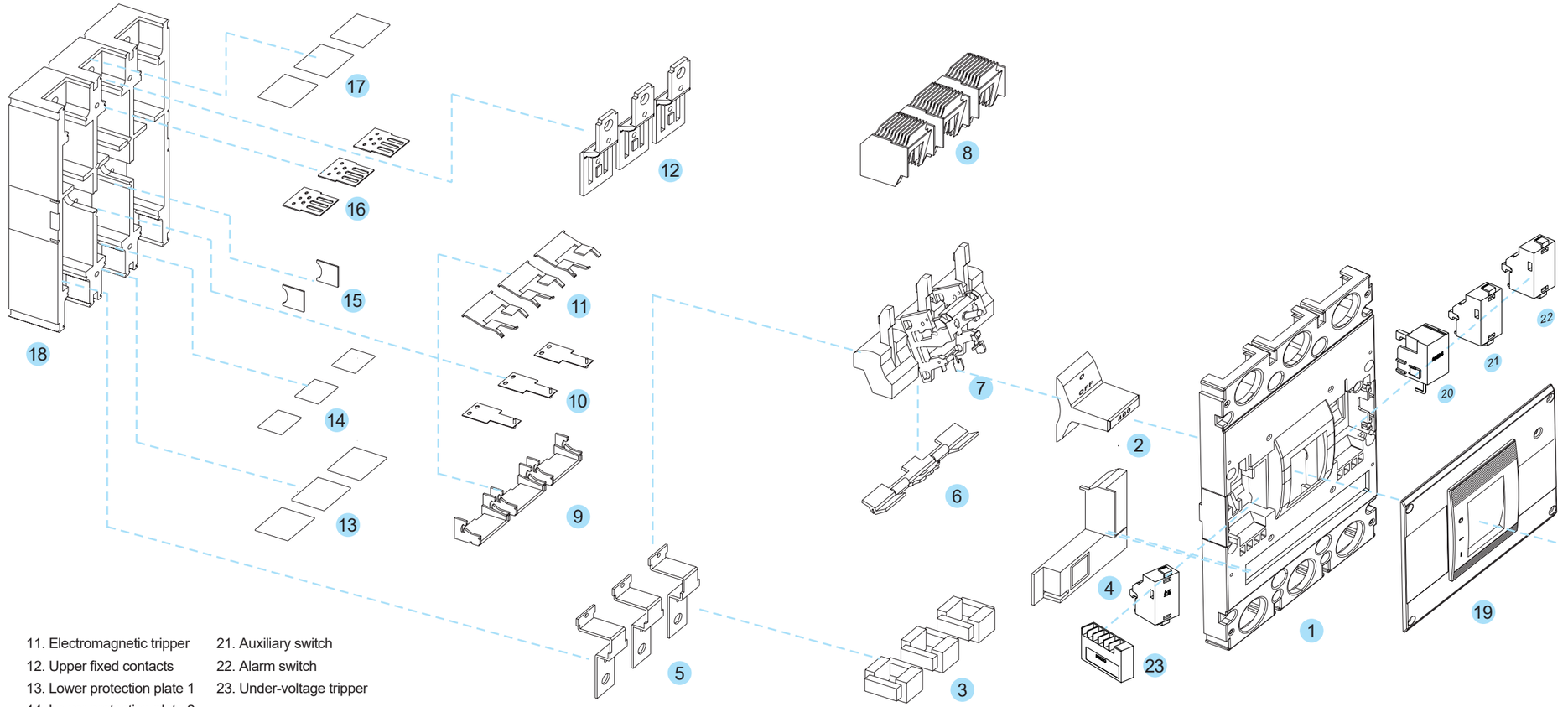
APPLICATIONS

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 which do not connect with the main 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



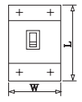
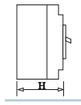
1. Upper cover
2. Handle
3. Induction coil
4. LCD circuit board
5. Lower fixed contacts
6. Tripper
7. Moving contacts combination
8. Arc extinguisher
9. Electromagnetic tripper base
10. Thermomagnetic tripper
11. Electromagnetic tripper
12. Upper fixed contacts
13. Lower protection plate 1
14. Lower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

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

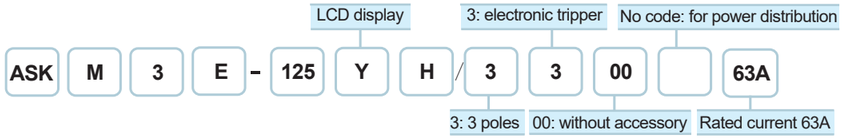



Model		ASKM3E-125Y			ASKM3E-250Y		ASKM3E-400Y	ASKM3E-630Y	ASKM3E-800Y
Frame rating current Inm(A)		125			250		400	630	800
Rated current In(A)		32	63	125	160	250	400	630	800
Overload long delay setting current Ir(A) Ir1=(0.4~1In)		12.5, 16, 20, 25, 32	32, 36, 40, 45, 50, 55, 60, 63	63, 65, 70, 75, 100, 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)	107/142			107/142		150/198	210/280	210/280
	L	165			165		257	280	280
	H (not including handle)	105			105		110	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

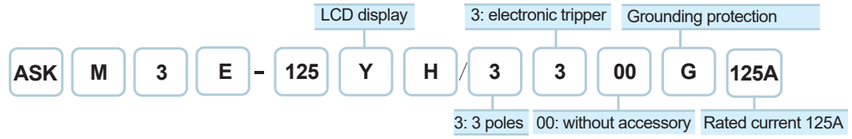
The circuit breaker for power distribution equipped with electronic tripper has 3 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous).
The protection characteristics are factory set according to the following parameters.
Model Example:



Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current / Voltage Setting Value	Action Characteristics/time
Overload long delay L	125	32/ 63/ 125	Ir1=12.5-125	Act by I²rt 1.05Ir1: no act within 2 h 1.3Ir1: act within 1h 2Ir1: t1=12s adjustable parameters: t1= (12, 60, 80, 100, 150)s
	250	160/ 250	Ir1=63-250	
	400	400	Ir1=160-400	
	800	630	Ir1=250-630	
		800	Ir1=315-800	
	Action allowed error			1.3Ir1~3In: ± 10%; ⩾3In: ± 20%
Short-circuit short delay S	125	125	Ir2 = 8Ir1 adjustable parameters: Ir2=(2~12)Ir1	1.5Ir2: t2=(0.06-0.1-0.2-0.3-0.4) Definite-time: t2=0.06s, 0.1s, 0.2s: ±0.03s t2=0.03s, 0.4s: ± 15% Note: when Ir2⩽1<1.5Ir2, inverse-time action; when 1.5Ir2⩽1<Ir3, definite-time action; Inverse-time or definite-time is optional.
	250	250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Short-circuit instantaneous I	125	125	Ir3 = 10Ir1 adjustable parameters: Ir2=(4~14)Ir1	Act instantaneously < 0.2
	250	250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 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=(0.7~1.0)×Ir1	
Over-voltage protection	Whole series	32~800	Phase voltage: 253V~286V; Line voltage: 437V~494V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Under-voltage protection	Whole series	32~800	Phase voltage: 154V~187V; Line voltage: 266V~323V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Phase-loss, zero-loss protection	Whole series	32~800		1~5s
	Action allowed error			± 5%

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

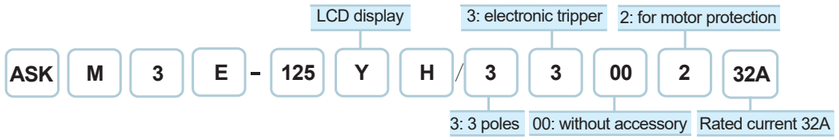
The circuit breaker for power distribution equipped with electronic tripper has 4 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous, grounding protection).
The protection characteristics are factory set according to the following parameters.
Model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



Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current / Voltage Setting Value	Action Characteristics/time
Overload long delay L	125	32/ 63/ 125	Ir1=12.5-125	Act by I²rt 1.05Ir1: no act within 2 h 1.3Ir1: act within 1h 2Ir1: t1=12s adjustable parameters: t1= (12, 60, 80, 100, 150)s
	250	160/ 250	Ir1=63-250	
	400	400	Ir1=160-400	
	800	630	Ir1=250-630	
		800	Ir1=315-800	
	Action allowed error			1.3Ir1~3In: ± 10%; ⩾3In: ± 20%
Short-circuit short delay S	125	125	Ir2 = 8Ir1 adjustable parameters: Ir2=(2~12)Ir1	1.5Ir2: t2=(0.06-0.1-0.2-0.3-0.4) Definite-time: t2=0.06s, 0.1s, 0.2s: ±0.03s t2=0.03s, 0.4s: ± 15% Note: when Ir2⩽1<1.5Ir2, inverse-time action; when 1.5Ir2⩽1<Ir3, definite-time action; Inverse-time or definite-time is optional.
	250	250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Short-circuit instantaneous I	125	125	Ir3 = 10Ir1 adjustable parameters: Ir2=(4~14)Ir1	Act instantaneously < 0.2
	250	250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Grounding protection	125~800	32~800	Ir4=0.8In adjustable parameters: Ir4=(0.3~0.8)In+OFF	<0.5Ir4 do not act act, > 1.0Ir4 delay act
	Action allowed error		0.1In	t4=0.4 s+20% adjustable parameters:t4=0.1/0.2/0.3/0.4s
	Progressive gradation		± 15%	0.1s±0.03s; 0.2s±0.03s; 0.3s,0.4s: ±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=(0.7~1.0)×Ir1	
Over-voltage protection	Whole series	32~800	Phase voltage: 253V~286V; Line voltage: 437V~494V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Under-voltage protection	Whole series	32~800	Phase voltage: 154V~187V; Line voltage: 266V~323V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Phase-loss, zero-loss protection	Whole series	32~800		1~5s
	Action allowed error			± 5%

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

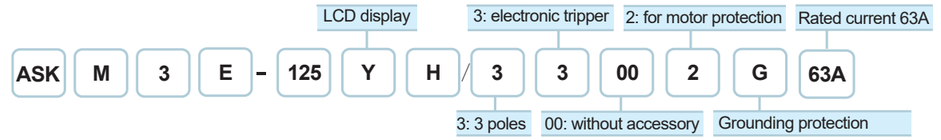
The circuit breaker for motor protection equipped with electronic tripper has 3 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous). The protection characteristics are factory set according to the following parameters.
Model Example:



Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current / Voltage Setting Value	Action Characteristics/time
Overload long delay L	125	32/ 63/ 125	Ir1=12.5-125	Act by I²rt, t1=12s, can be adjusted to 60/80/150s 1.05Ir1: no act within 2 h 1.2Ir1: act within 1h 1.5Ir1: 21.3s 107s 142s 178s 267s 2Ir1, t1: 12s 60s 80s 100s 150s 7.2Ir1: 0.93s 4.63s 6.17s 7.72s 11.6s tripping level: – 10 10 20 30
	250	160/ 250	Ir1=63-250	
	400	400	Ir1=160-400	
	800	630	Ir1=250-630	
		800	Ir1=315-800	
	Action allowed error			1.3Ir1~3In: ± 10%; ⩾3In: ± 20%
Short-circuit short delay S	125	32/63/125	Ir2 = 8Ir1 adjustable parameters: Ir2=(2~12)Ir1	1.5Ir2: t2=0.3s Definite-time: t2=(0.06-0.1-0.2-0.3-0.4)s t2=0.06, 0.1, 0.2s: ± 0.03s t2=0.3, 0.4s: ± 15% Note: when Ir2⩽1<1.5Ir2, inverse-time action; when 1.5Ir2⩽1<Ir3, definite-time action; Inverse-time or definite-time is optional.
	250	160/250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Short-circuit instantaneous I	125	32/63/125	Ir3 = 12Ir1 adjustable parameters: Ir3=(4~14) Ir1	Act instantaneously < 0.2
	250	160/250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Neutral pole protection 4 poles C type	Whole series	125~800	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	
Overload pre-alarm	Whole series	125~800	Ir0=0.9Ir1 adjustable parameters: Ir0=(0.7~1.0)×Ir1	
Over-voltage protection	Whole series	125~800	Phase voltage: 253V~286V; Line voltage: 437V~494V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Under-voltage protection	Whole series	125~800	Phase voltage: 154V~187V; Line voltage: 266V~323V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Phase-loss, zero-loss protection	Whole series	125~800		1~5s
	Action allowed error			± 5%

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

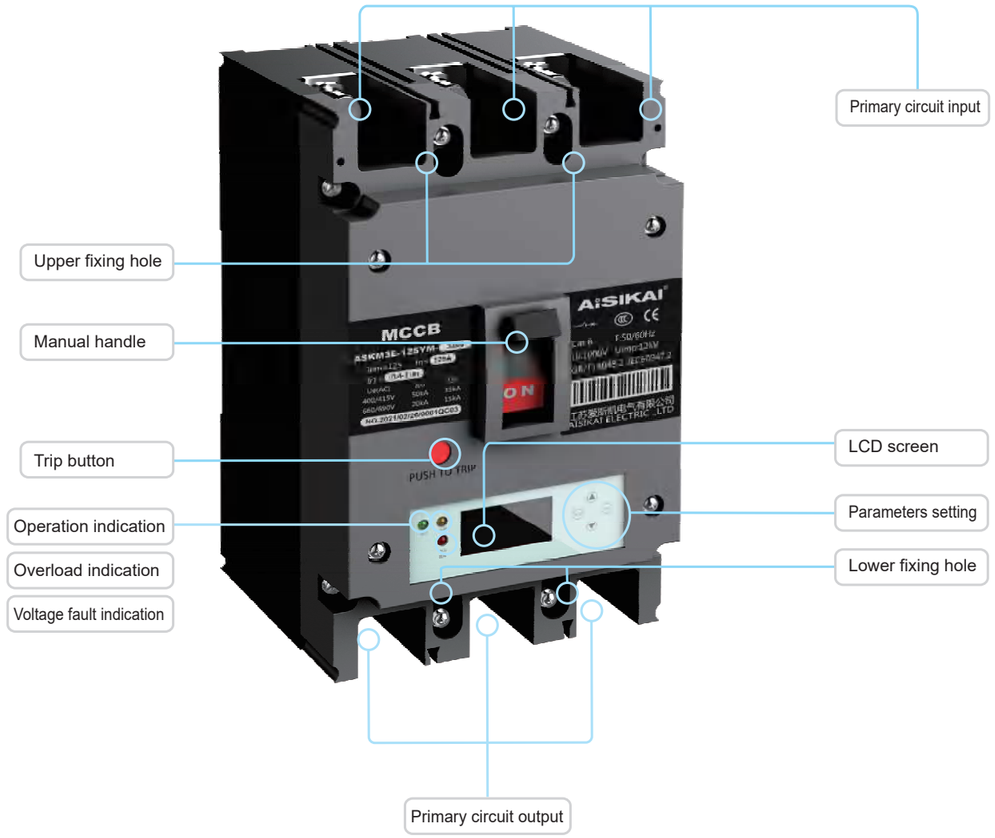
The circuit breaker for motor protection equipped with electronic tripper has 4 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous, grounding protection). The protection characteristics are factory set according to the following parameters.
Model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



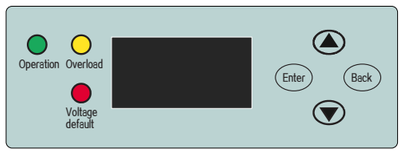
Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current / Voltage Setting Value	Action Characteristics/time
Overload long delay L	125	32/ 63/ 125	Ir1=12.5-125	Act by I²rt, t1=12s, can be adjusted to 60/80/150s 1.05Ir1: no act within 2 h 1.2Ir1: act within 1h 1.5Ir1: 21.3s 107s 142s 178s 267s 2Ir1, t1: 12s 60s 80s 100s 150s 7.2Ir1: 0.93s 4.63s 6.17s 7.72s 11.6s tripping level: – 10 10 20 30
	250	160/ 250	Ir1=63-250	
	400	400	Ir1=160-400	
	800	630	Ir1=250-630	
		800	Ir1=315-800	
	Action allowed error			1.3Ir1~3In: ± 10%; ⩾3In: ± 20%
Short-circuit short delay S	125	32/63/125	Ir2 = 8Ir1 adjustable parameters: Ir2=(2~12)Ir1	1.5Ir2: t2=0.3s Definite-time: t2=(0.06-0.1-0.2-0.3-0.4)s t2=0.06, 0.1, 0.2s: ± 0.03s t2=0.3, 0.4s: ± 15% Note: when Ir2⩽1<1.5Ir2, inverse-time action; when 1.5Ir2⩽1<Ir3, definite-time action; Inverse-time or definite-time is optional.
	250	160/250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Short-circuit instantaneous I	125	32/63/125	Ir3 = 12Ir1 adjustable parameters: Ir3=(4~14) Ir1	Act instantaneously < 0.2
	250	160/250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Grounding protection	125~800	32~800	Ir4=0.8In adjustable parameters: Ir4=(0.3~0.8)In+OFF	<0.5Ir4 do not act act, > 1.0Ir4 delay act
	Action allowed error		0.1In	t4=0.4 s+20% adjustable parameters:t4=0.1/0.2/0.3/0.4s
	Progressive gradation		± 15%	0.1s±0.03s; 0.2s±0.03s; 0.3s,0.4s: ±15%
Neutral pole protection 4 poles C type	Whole series	125~800	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	
Overload pre-alarm	Whole series	125~800	Ir0=0.9Ir1 adjustable parameters: Ir0=(0.7~1.0)×Ir1	
Over-voltage protection	Whole series	125~800	Phase voltage: 253V~286V; Line voltage: 437V~494V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Under-voltage protection	Whole series	125~800	Phase voltage: 154V~187V; Line voltage: 266V~323V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Phase-loss, zero-loss protection	Whole series	125~800		1~5s
	Action allowed error			± 5%

INDICATION STRUCTURE INTRODUCTION

Circuit Breaker Front Indication



Use the buttons on the panel to manipulate the circuit breaker



Use “Enter” “Back” “△” “▽” to modify the contents on the screen;
“Operation” indication: lit on when the circuit breaker is working normally;
“Overload” indication: flashes when the circuit breaker is in pre-alarm condition, lit on when the circuit breaker is in overload tripping condition;
“Voltage fault” indication: lit on when the circuit breaker in in under-voltage, under-voltage or phase-loss condition.

FUNCTIONS TABLE

Standard functions table

Measurement	Current measurement	I1, I2, I3, IN
	Voltage measurement	Line voltage: U12, U23, U31
		Phase voltage: U1N, U2N, U3N
Maintenance	Setting	Menu setting
	Fault memory	Overload, short-circuit delay, short-circuit instantaneous, grounding, fault phase sequence
		Over-voltage protection, under-voltage protection, fault phase sequence
		Phase-loss protection, zero-loss protection, fault phase sequence
	History records(the last 10 fault communication output)	
Display	Real-time current value	
	Real-time voltage value	
	System time	
	Last fault type, fault current or fault voltage, time of fault	

Optional functions table

Optional functions table			Default setting	Optional setting	
Protection / alarm	Long delay protection		Trip	Alarm	Off
	Short delay protection		Trip	Alarm	Off
	Short-circuit instantaneous protection		Trip	Alarm	Off
	Over-voltage protection		Off	Alarm	Trip
	Under-voltage protection		Off	Alarm	Trip
	Phase-loss protection		Off	Alarm	Trip
	Zero-loss protection		Off	Alarm	Trip
	Overload pre-alarm		Off	Alarm	
Communication function	General MODBUS communication	Choose one of two	Have		
	Special “Low-voltage molded case circuit breaker communication protocol”			Optional	

INTERNAL OPTIONAL ACCESSORIES

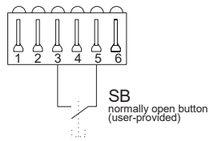
The ASKM3E-Y electronic circuit breaker has five basic accessory modules available for optional installation inside the switch.

Shunt Tripper MODEL: FJ-FT-ASKM3E-Y

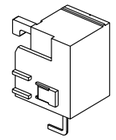
Usage:
Shunt tripper is used to remotely control the breaking of the circuit breaker, realizing the intelligent operation of power distribution with external control circuits.

Control signal:
passive close dry contact control

Wiring diagram:



Outline:

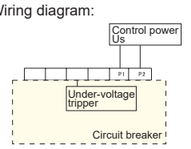


Under-voltage tripper MODEL: FJ-QT-ASKM3E-Y

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)

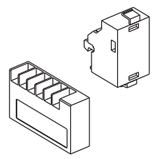
1.Control power voltage Us1: when Us1=(35%-70%)Ue, the under-voltage tripper can reliably break circuit breaker.
2.Control power voltage Us2: when Us2:Us2=(85%-110%)Ue, the circuit breaker can close normally.
3.Control power voltage Us3: when Us3＜35%Ue, the under-voltage tripper can prevent circuit breaker 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.

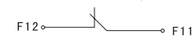
Outline:



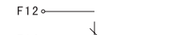
Auxiliary switch MODEL:FJ-FC-ASKM3E-Y

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

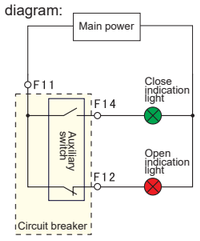


When circuit breaker is at closing position

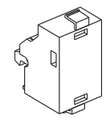


Conventional thermal current: Ith=3A

Wiring diagram:



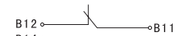
Outline:



Alarm switch MODEL: FJ-BC-ASKM3E-Y

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

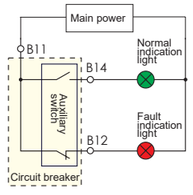
When circuit breaker is at position of open/closed



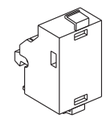
When circuit breaker is at position of free trip&fault trip

Conventional thermal current: Ith=3A

Wiring diagram:



Outline:

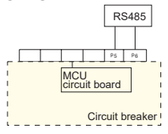


Communication module MODEL: FJ-TXMK-ASKM3E-Y

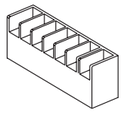
Usage:
Breakers have built-in communication module, realizing communication function and providing remote communication, remote measurement, remote adjustment and remote control functions.
Standard outlet wire type: terminal
(Terminals are located on the front or directly below the product)

Communication has 2 types:
Type A: standard
General MODBUS communication protocol RS485 interface
Type B: optional
Meet the requirements of “Low-voltage molded case circuit breaker communication protocol” and can provide metering function

Wiring diagram:



Outline:



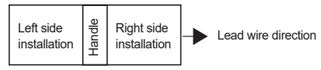
INTERNAL ACCESSORIES CODE TABLE

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

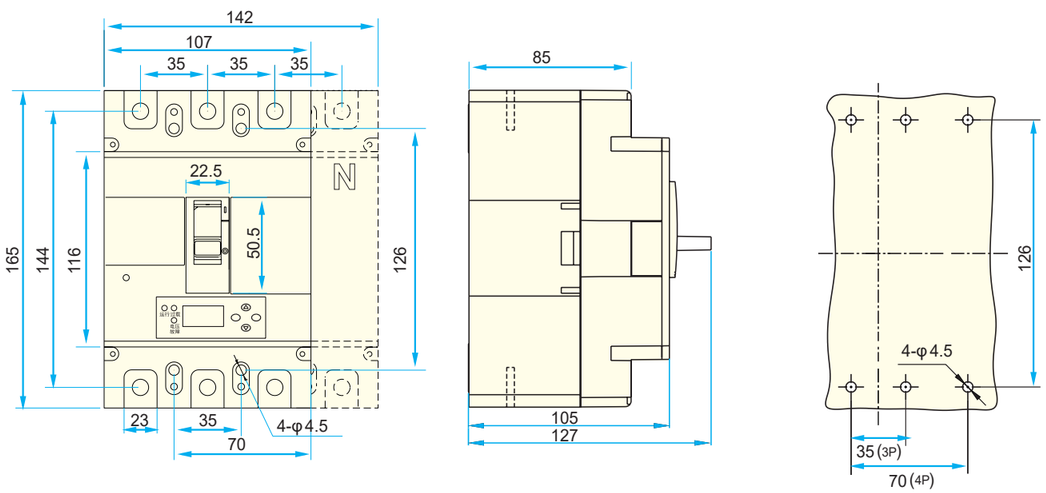


Code	Accessory	ASKM3E-125Y/250Y		ASKM3E-400Y		ASKM3E-630/800Y
		3P	4P	3P	4P	3P/4P
00	No accessory					
08	Alarm switch	◂□	◂□	◂□	◂□	◂□
10	Shunt tripper	◂●	◂●	◂●	◂●	◂●
20	Auxiliary switch(1NO1NC)	◂■	◂■			
	Auxiliary switch(2NO2NC)			◂■	◂■	◂■
02	Auxiliary switch(2NO2NC)	◂■	◂■			
30	Under-voltage tripper	◂○	◂○	◂○	◂○	◂○
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					

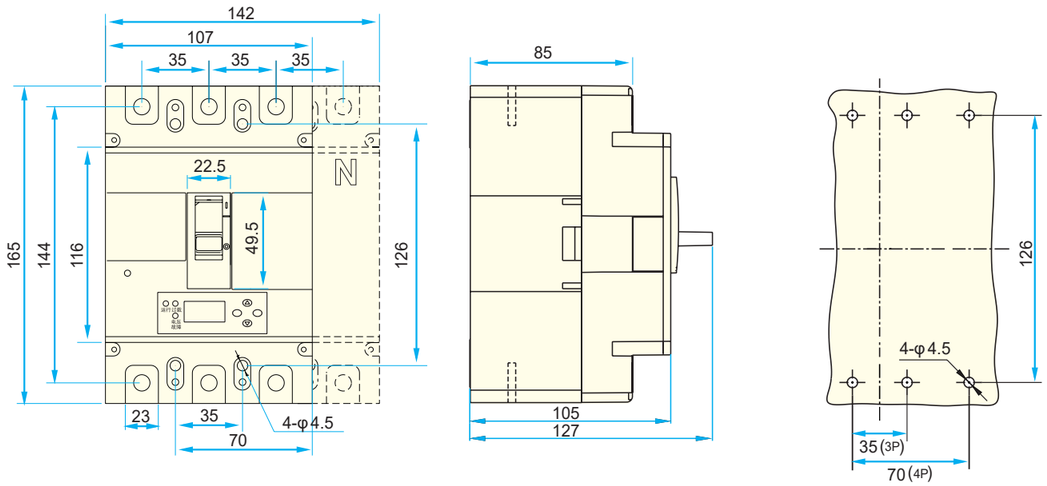
OUTLINE AND INSTALLATION DIMENSIONS

Front wiring

ASKM3E-125Y Frame

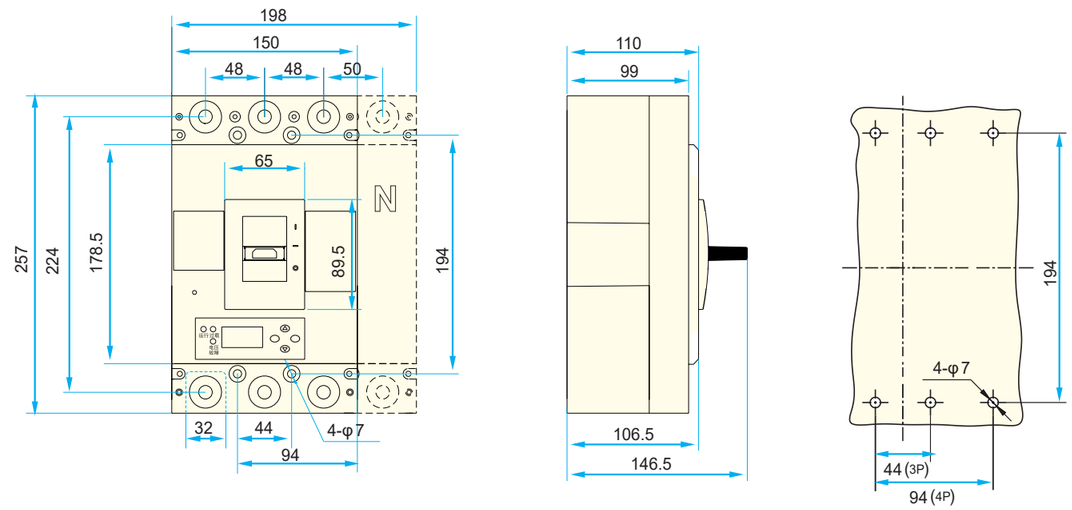


ASKM3E-250Y Frame

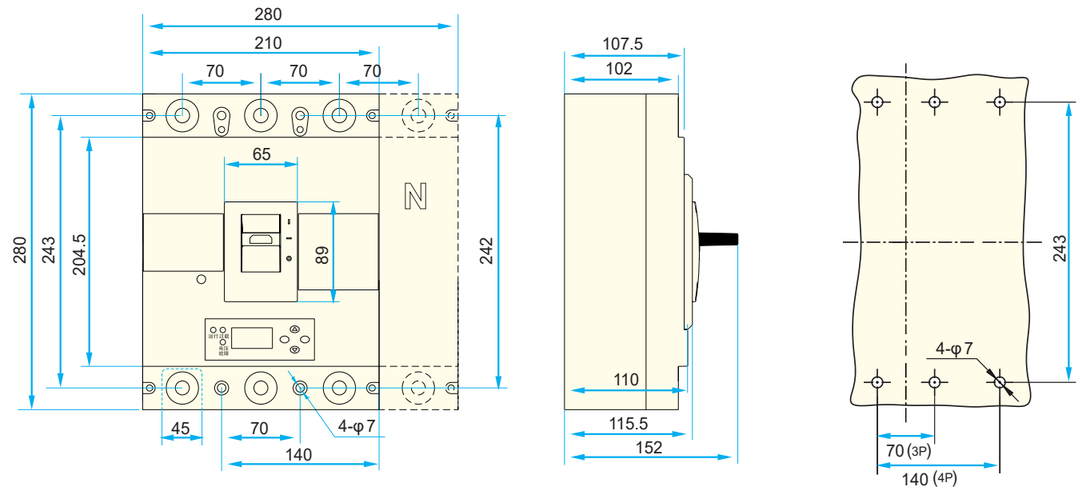


Front wiring

ASKM3E-400Y Frame



ASKM3E-630/800Y Frame



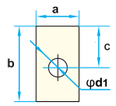
External Optional Accessory- Plug-in Front Wiring Base

Optional plug-in front wiring base is available for ASKM3E-Y LCD electronic circuit breaker.

Plug-in front wiring base(PF) MODEL：FJ-BQDZ-ASKM3E-Y

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.

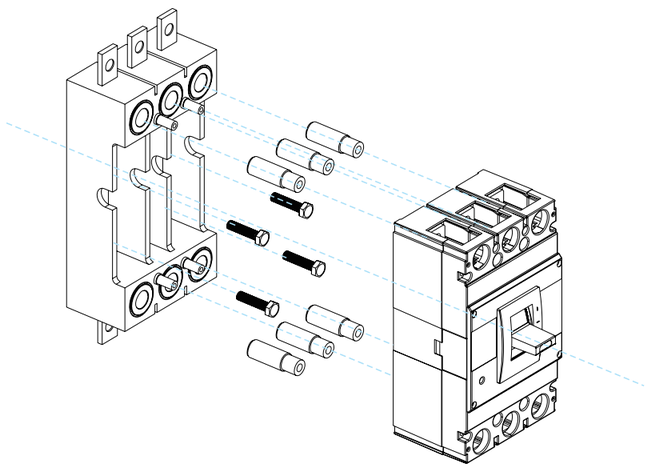
Copper bars dimensions(mm)



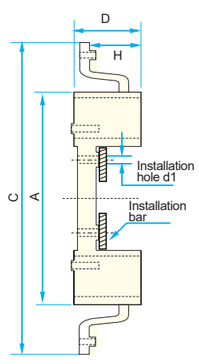
125-800 Frame

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

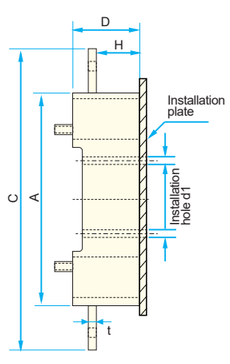
Installation schematic diagram：



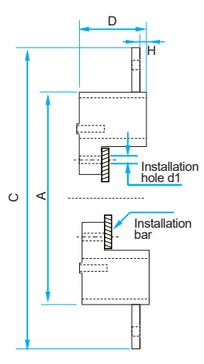
Outline and installation dimensions：

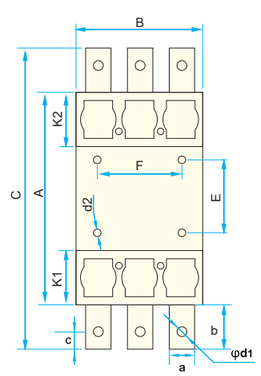


125, 250



400





630/800(Separate type)

Frame	Outline and installation opening dimensions										
	A	B	C	D	E	F	H	K1	K2	d2	t
125A	183	110	258	51.5	64	70	46	44	44	7	3
250A	183	110	258	51.5	64	70	46	44	44	7	3
400A	277	150	352	80	135	115	31	—	—	7	6
630/800A	304	210	404	87	144	91	13	62	62	11	8

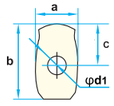
External Optional Accessory- Plug-in Rear Wiring Base

Optional plug-in rear wiring base is available for ASKM3E-Y LCD electronic circuit breaker.

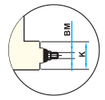
Plug-in rear wiring base(PR) MODEL：FJ-BHDZ-ASKM3E-Y

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)



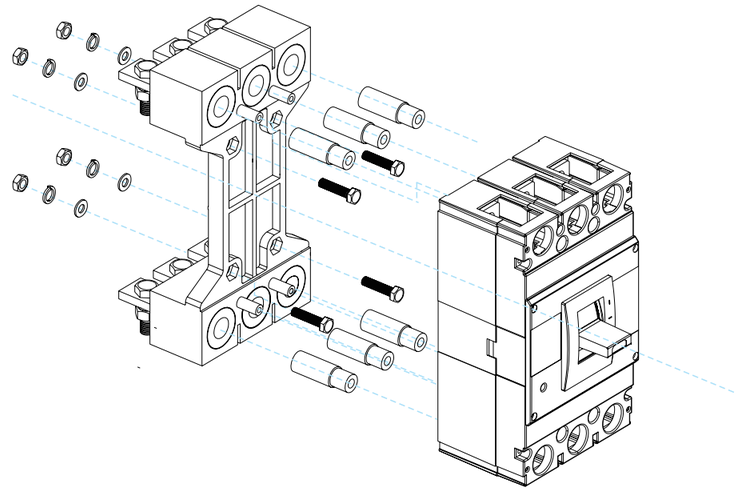
125-400 Frame



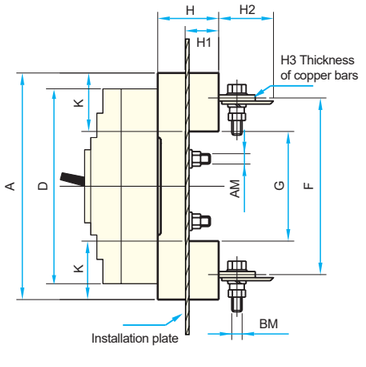
800 Frame

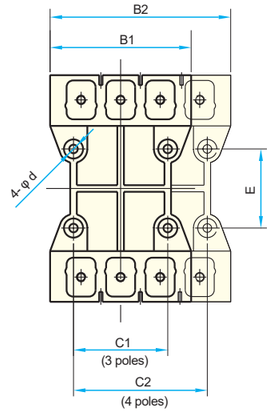
Frame	a	b	c	d1
125	21	36	20	8
250	21	36	20	8
400	30	43	22	12
630/800	BM=M14(Bolt outlet wire)			

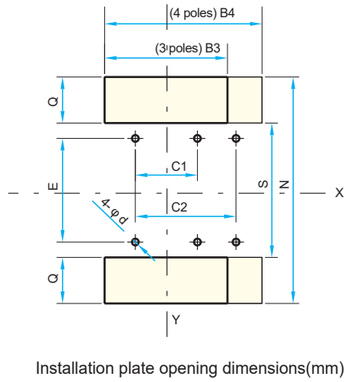
Installation schematic diagram：



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	107	125	70	105	165	54	144	94	46	50	33	37	5.5	196	82	56	117	155
250A	186	107	145	70	105	165	54	144	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

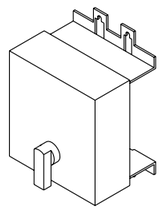
External Optional Accessory-Electric Operating Mechanism

Optional CD1 type or CD2 type electric operating mechanism is available for ASKM3E-Y electronic circuit breaker.

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1-ASKM3E-Y-250

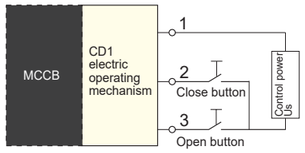
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally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

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

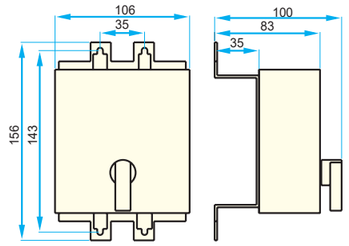


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V

Wiring diagram:



Installation schematic diagram:

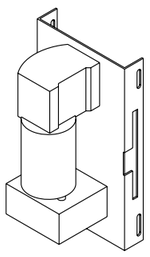


Applicable frame: 125, 250

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1-ASKM3-Y-400

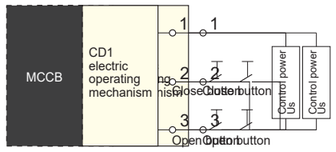
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally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

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

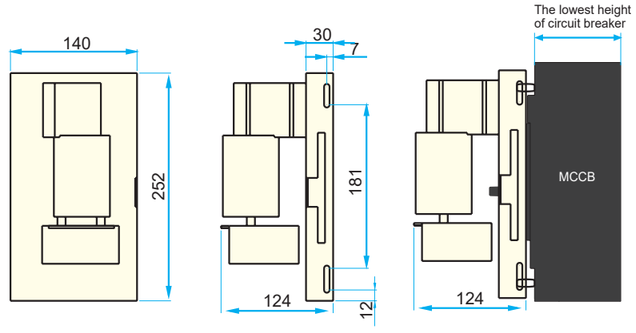


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V
DC 220V

Wiring diagram:



Installation schematic diagram:

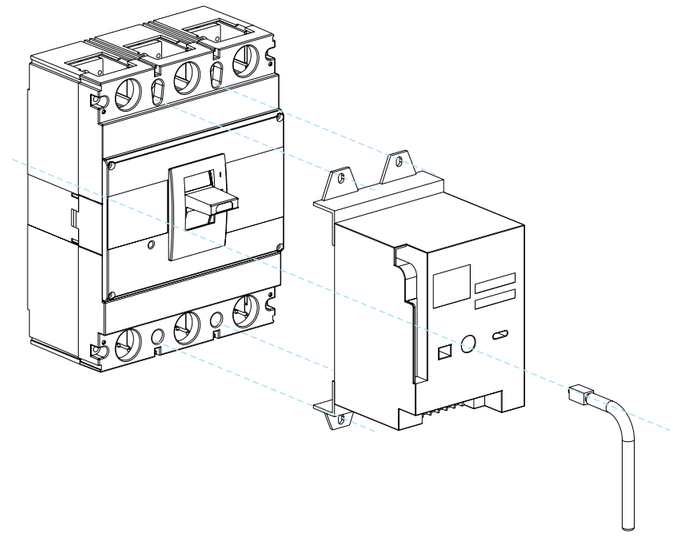


Electric Operating Mechanism- CD2 — MODEL: FJ-DC/CD2-ASKM3E-Y

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

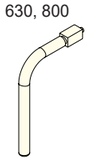
Wiring diagram:



Manual handle:

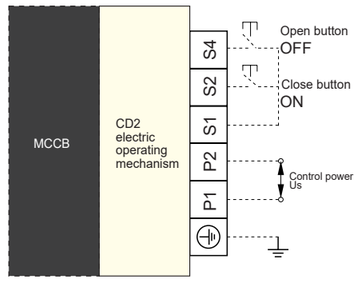
frame 63, 125, 250

frame 400, 630, 800

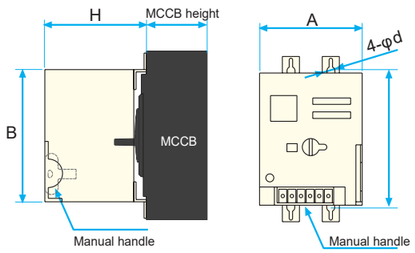


Control power: Us=(70%-110%) Ue
Frequency: 50Hz
Ue:rated operational voltage of shunt tripper
Default voltage:AC 220V
Optional voltage: AC 110V
DC 220V
DC 110V
DC 24V

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			
ASKM3E-Y-125	90	116	94	4.5	≤0.5	14000	14
ASKM3E-Y-250	90	116	90	4.5	≤0.5	14000	14
ASKM3E-Y-400	130	176	143	6.5	≤2	5000	35
ASKM3E-Y-630,800	130	176	147	6.5	≤2	5000	35

External Optional Accessory-Manual Operating Mechanism

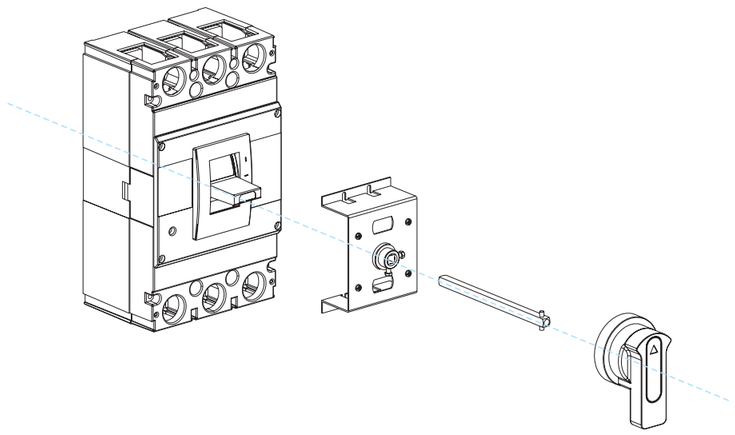
Optional CD1 type or CD2 type electric operating mechanism is available for ASKM3E-Y electronic circuit breaker.

Manual operating mechanism

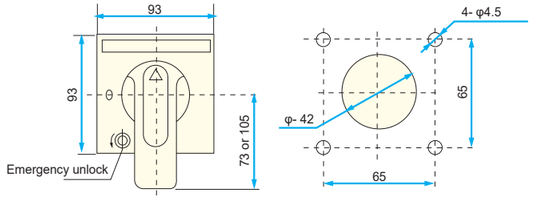
Usage:
The manual operating mechanism is installed on the front of the circuit breaker. Through rotating handle, it realizes the requirement of operation on the panels of drawer cabinet, distribution cabinet, power box, etc. It also provides the function of interlocking between the circuit breaker and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

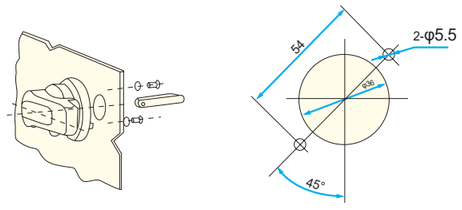


Square handle dimensions: type F



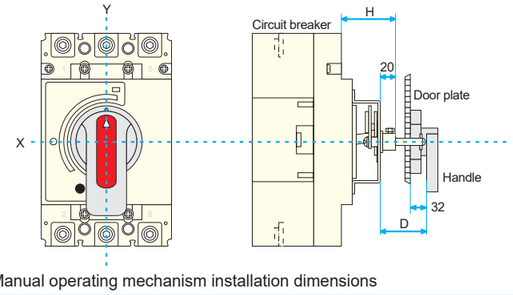
Square handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

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	ASKM3L-125	ASKM3L-250	ASKM3L-400	ASKM3L-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

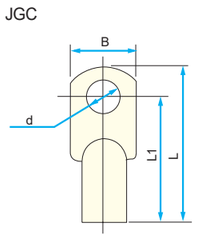
Rated current(A)	10	16, 20	25	32	40, 50	63	80	100	125, 140	160	180, 200, 225	250	315, 350	400
Wire cross section area (mm²)	1.5	2.5	4	6	10	16	25	35	50	70	95	120	185	240

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

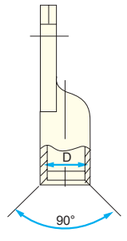
MODEL OF WIRING TERMINALS

JGC\JBC wiring terminal reference dimension

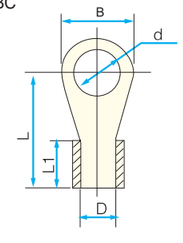
JGC



JGC

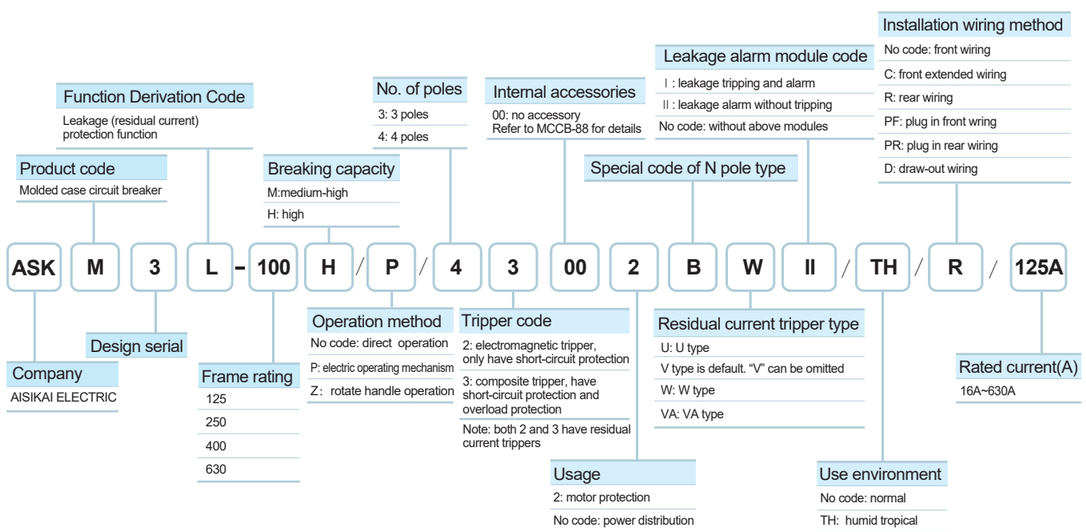


JBC



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

ASKM3L 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

ASKM3L

Model definition 1:

ASKM3L-125HP/4300/2BWIITH/R,In=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:

ASKM3L-250M/3300/A,In=250A

1. leakage protection molded circuit breaker, 250A frame, medium-high breaking capacity, direct manual operation (implicit);
2. 3 poles, composite tripper, no accessory ;
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

ASKM3L THERMOMAGNETIC LEAKAGE PROTECTION MOLDED CASE CIRCUIT BREAKER

OVERVIEW

ASKM3L 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

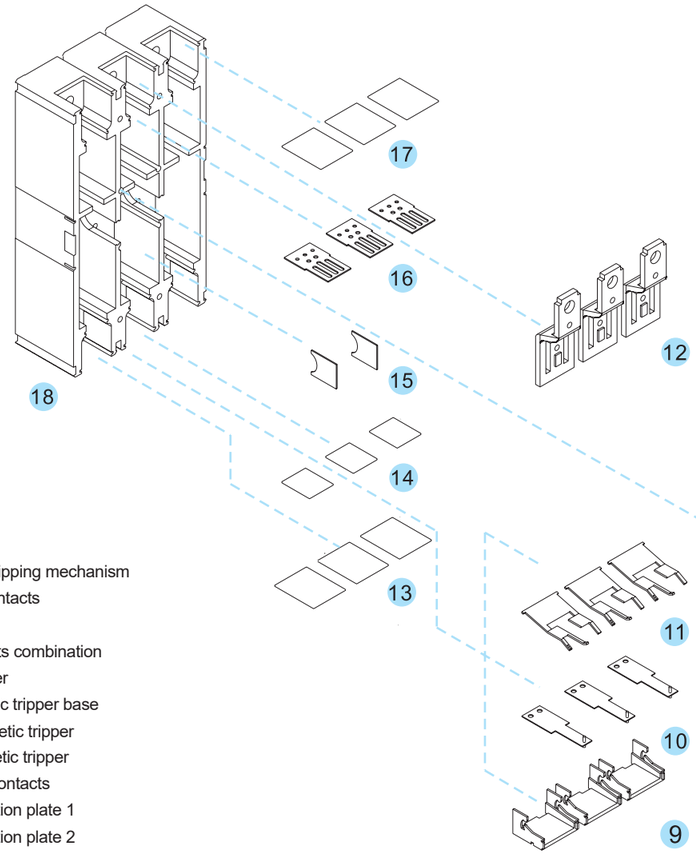
APPLICATIONS

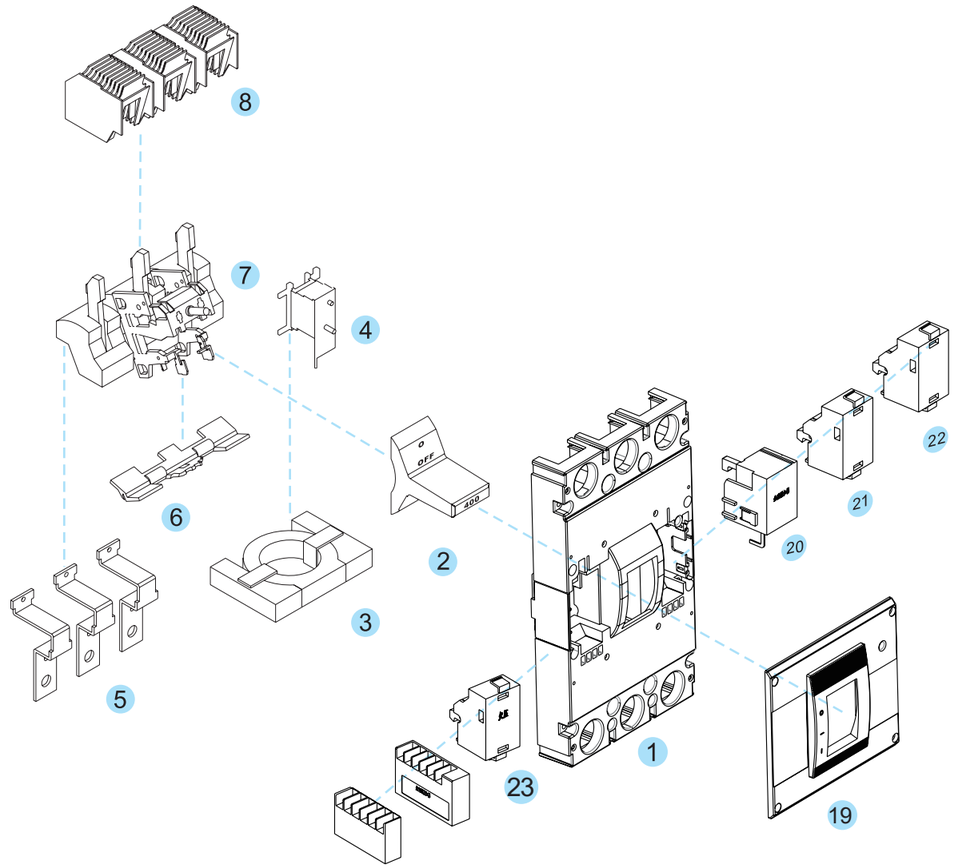
Civil Commercial Industrial

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. Upper cover
2. Handle
3. Induction coil
4. Circuit board tripping mechanism
5. Lower fixed contacts
6. Tripper
7. Moving contacts combination
8. Arc extinguisher
9. Electromagnetic tripper base
10. Thermomagnetic tripper
11. Electromagnetic tripper
12. Upper fixed contacts
13. Lower protection plate 1
14. Lower protection plate 2
15. Spindle bracket
16. Arc extinguisher barrier
17. Upper protection plate
18. Base
19. Face cover
20. Shunt tripper
21. Auxiliary switch
22. Alarm switch
23. Under-voltage tripper
24. 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




Technical performance specifications

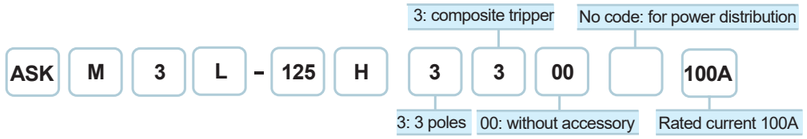
Model			ASKM3L-125	ASKM3L-250	ASKM3L-400	ASKM3L-630
Frame rating current Inm(A)			125	250	400	630
Rated current In(A)			16, 20, 25, 32, 40, 50, 63, 80, 100, 125	100, 125, 140, 160,180, 200, 225, 250	225, 250, 315, 350, 400	400, 500, 630
No. of poles			3/4	3/4	3/4	3/4
Rated insulation voltage Ui(V)			AC800			
Rated operational voltage Ue(V)			AC400	AC400	AC400	AC400
Rated impulse withstand voltage Uimp(V)			8000	8000	8000	8000
Arc distance(mm)			≥ 50(0)**	≥ 50(0)**	≥ 100(0)**	≥ 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	107	114.5

*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	5In 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.

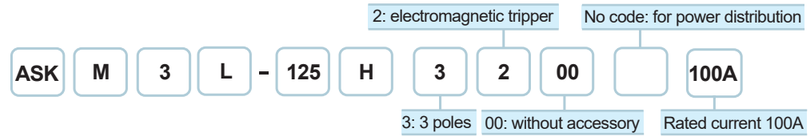
Protection Function	Frame Rating	Residual current tripper		Current setting value I△no(A)	Action time
Residual current protection	125/250	AC type protection	U	0.03/0.1/0.3/0.5 adjustable, non-delay time	
			V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	Maximum breaking time(ms) < 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	5In 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.

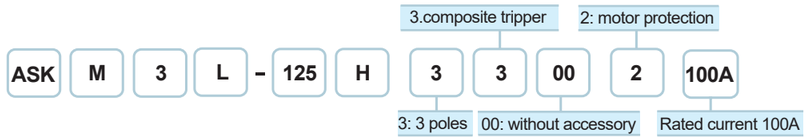
Protection Function	Frame Rating	Residual current tripper		Current setting value I△no(A)	Action time
Residual current protection	125/250	AC type protection	U	0.03/0.1/0.3/0.5 adjustable, non-delay time	
			V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	Maximum breaking time(ms) < 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 motor protection equipped with composite 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.

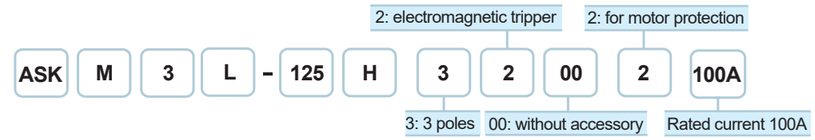
Protection Function	Frame Rating	Residual current tripper		Current setting value I△no(A)	Action time
Residual current protection	125/250	AC type protection	U	0.03/0.1/0.3/0.5 adjustable, non-delay time	
			V	0.1/ 0.3/ 0.5 adjustable, switchable between non-delay and delay	Maximum breaking time(ms) <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

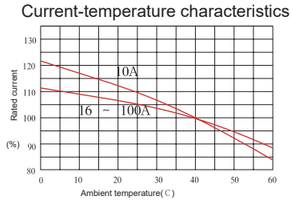
delay time △t(ms) (Ultimate non-drive time)	0	200	400	1000
Maximum breaking time(ms)	<40	<300	<600	<2000

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

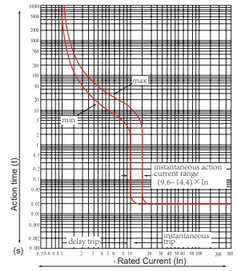
POWER DISTRIBUTION TIME/CURRENT PROTECTION CHARACTERISTIC CURVE

125A Frame

Temperature compensation curve

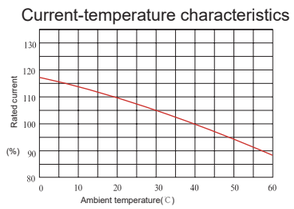


Action curve

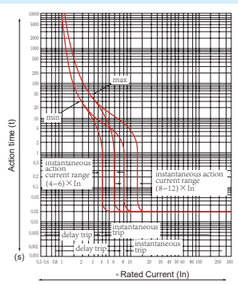


250A Frame

Temperature compensation curve

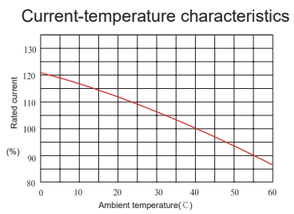


Action curve

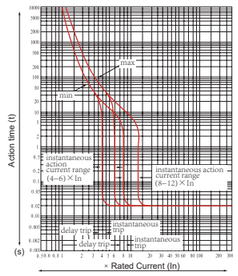


400A Frame

Temperature compensation curve

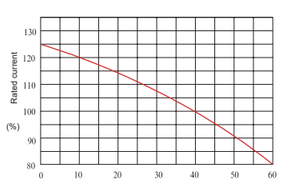


Action curve

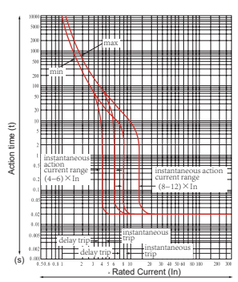


630A Frame

Temperature compensation curve



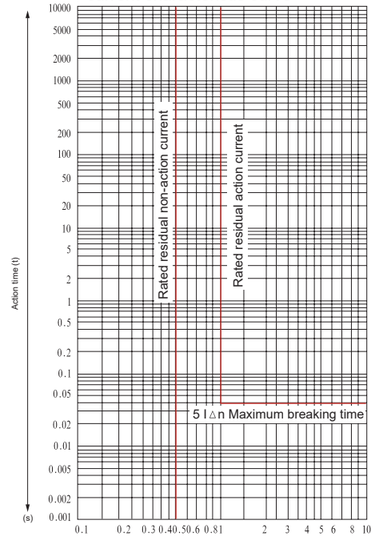
Action curve



RESIDUAL CURRENT PROTECTION CHARACTERISTIC CURVE

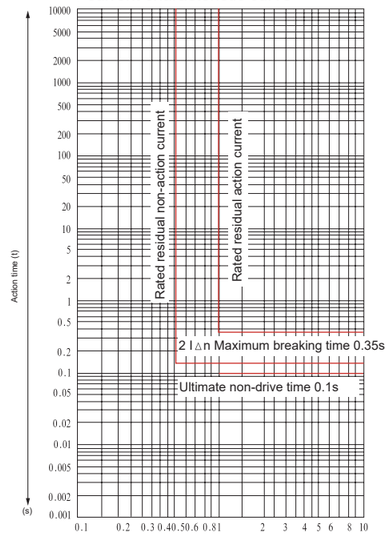
I△n=100mA, 300mA, 500mA

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



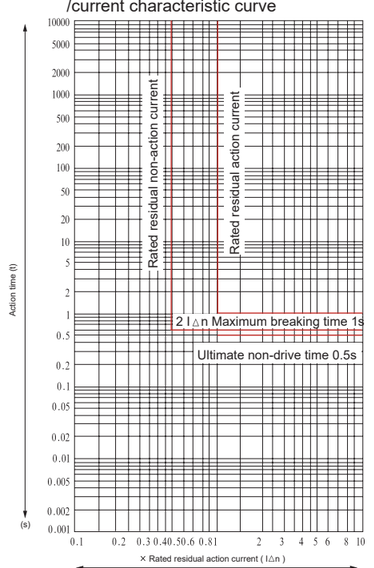
I△n=100mA, 300mA, 500mA, 1000mA

Delay type residual current protection time / current characteristic curve



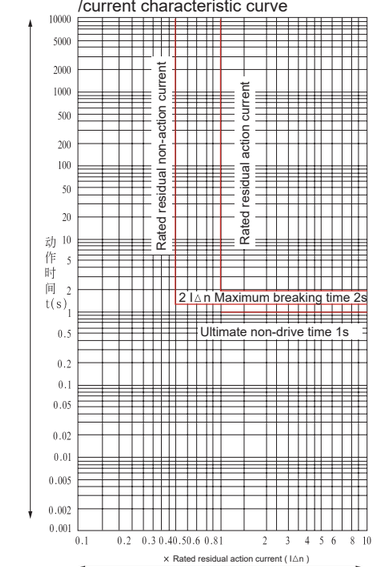
I△n=100mA, 300mA, 500mA, 1000mA

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

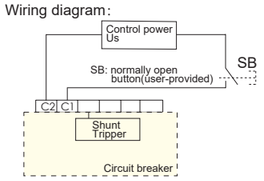
The ASKM3L thermomagnetic leakage circuit breaker has five basic accessory modules available for optional installation inside the switch.

Shunt Tripper MODEL: FJ-FT-ASKM3L

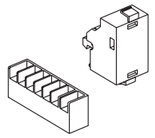
Usage:
Shunt tripper is used to remotely control the breaking of the circuit breaker. It is instantaneous working system. Long time energizing is prohibited. Each power-on time is recommended to be no more than 1s.
Standard outlet wire method: lead wire type
Standard outlet wire length: 50cm
Customizable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

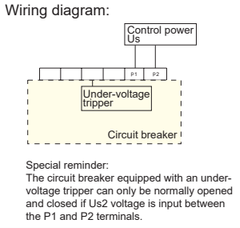


Under-voltage tripper MODEL: FJ-QT-ASKM3L

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)

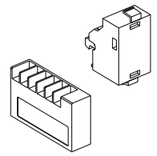
1.Control power voltage Us1: when Us1=(35%-70%)Ue, the under-voltage tripper can reliably break circuit breaker.
2.Control power voltage Us2: when Us2:Us2=(85%-110%)Ue, the circuit breaker can close normally.
3.Control power voltage Us3: when Us3≤35%Ue,the under-voltage tripper can prevent circuit breaker 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.

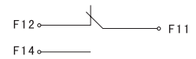
Outline:



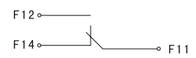
Auxiliary switch MODEL:FJ-FC-ASKM3L

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

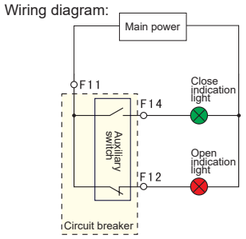


When circuit breaker is at closing position

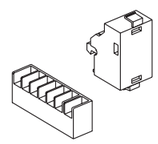


Conventional thermal current: Ith=3A

Wiring diagram:



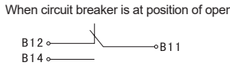
Outline:



Alarm switch MODEL: FJ-BC-ASKM3L

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

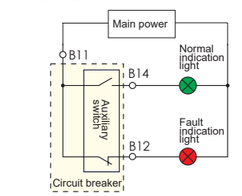
When circuit breaker is at position of open/closed



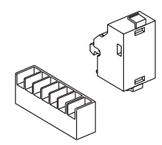
When circuit breaker is at position of free trip&fault trip

Conventional thermal current: Ith=3A

Wiring diagram:



Outline:



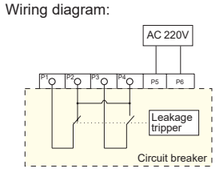
Leakage alarm unit module MODEL: FJ-LDBJ-ASKM3L

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:

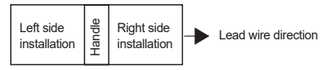
INTERNAL ACCESSORIES CODE TABLE

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

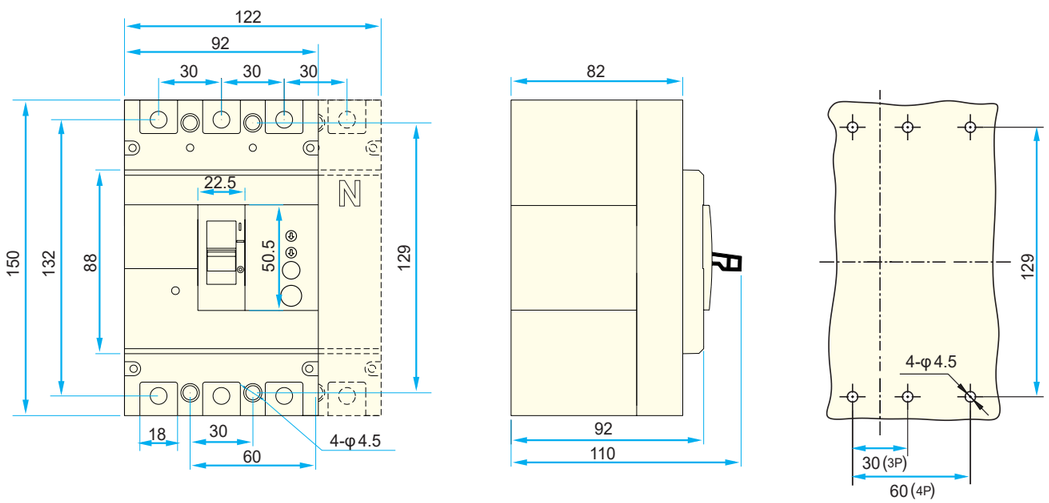


Code	Accessory	ASKM1L-125/250				ASKM1L-400				ASKM1L-630			
		3P/4P	A/D	4P	B/C	3P/4P	A/D	4P	B/C	3P/4P	A/D	4P	B/C
00	No accessory												
08	Alarm switch	◂□		◂□		◂□		◂□		◂□		◂□	
10	Shunt tripper	◂●		◂●		◂●		◂●		◂●		◂●	
20	Auxiliary switch(1NO1NC)	◂■		◂■									
	Auxiliary switch(2NO2NC)					◂■		◂■		◂■		◂■	
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			◂○■□▸									

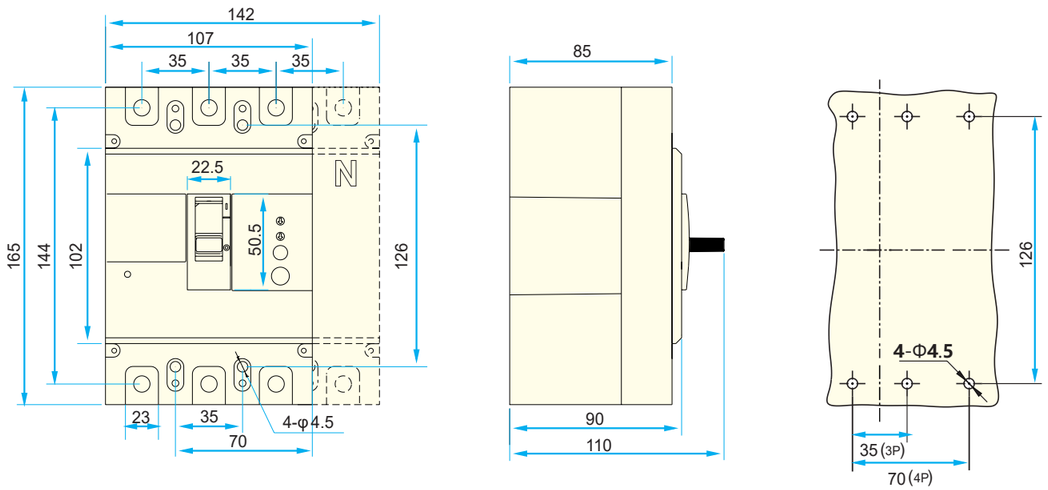
OUTLINE AND INSTALLATION DIMENSIONS

Front wiring

ASKM3L -125 Frame

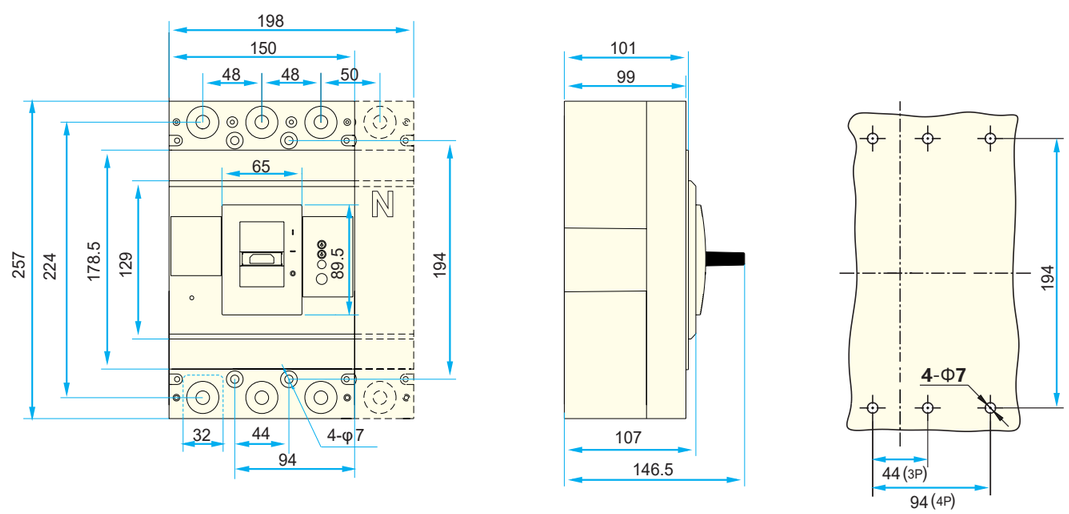


ASKM3L -250 Frame

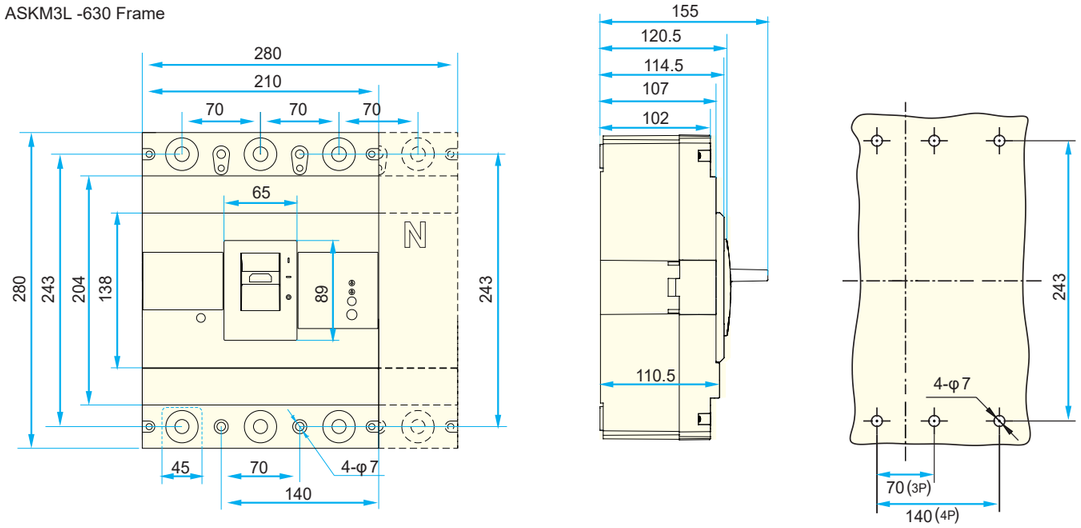


Front wiring

ASKM3L -400 Frame



ASKM3L -630 Frame



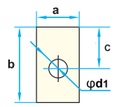
External Optional Accessory- Plug-in Front Wiring Base

Optional plug-in front wiring base is available for ASKM3L circuit breaker.

Plug-in front wiring base(PF) MODEL：FJ-BQDZ-ASKM3EL

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.

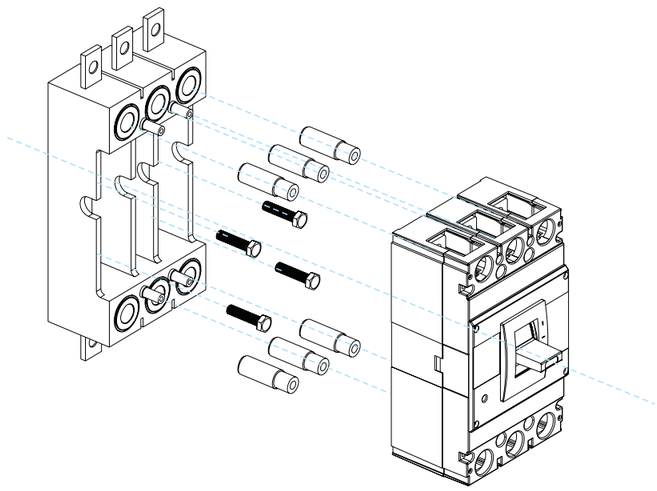
Copper bars dimensions(mm)



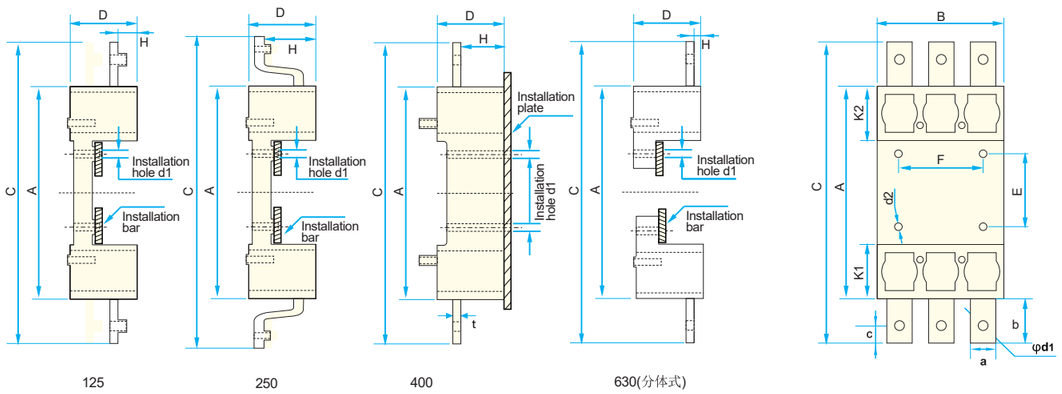
125-800 Frame

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(分体式)

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	258	51.5	64	70	46	44	44	7	3
400A	277	150	352	80	135	115	31	—	—	7	6
630A	344	210	444	87	188	91	13	62	62	11	8

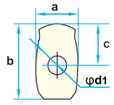
External Optional Accessory- Plug-in Rear Wiring Base

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

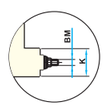
Plug-in rear wiring base(PR) MODEL: FJ-BHDZ-ASKM3EL

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)



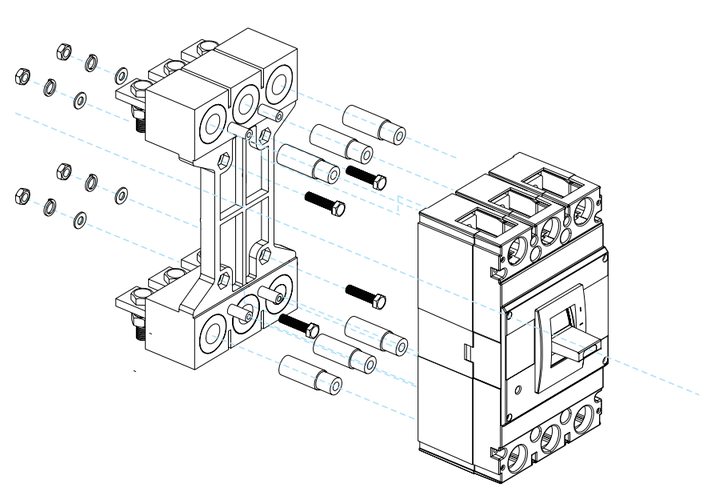
125-400 Frame



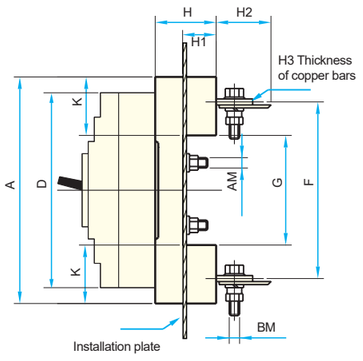
800 Frame

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)			

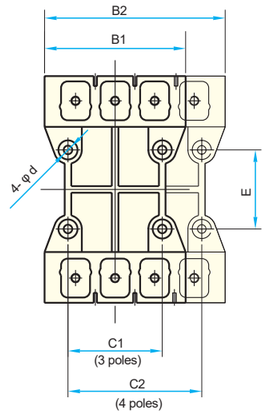
Installation schematic diagram：

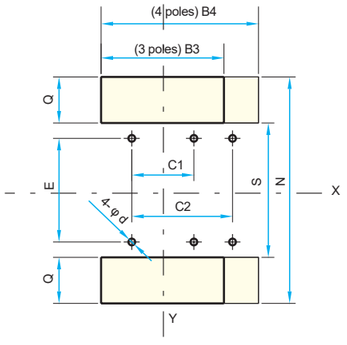


Outline and installation dimensions：



H





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

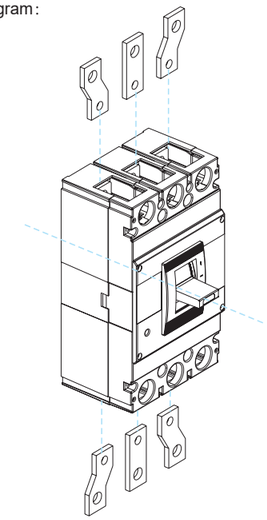
External Optional Accessory- Front Extended Copper Bars

Optional front extended wiring is available for ASKM3L circuit breaker.

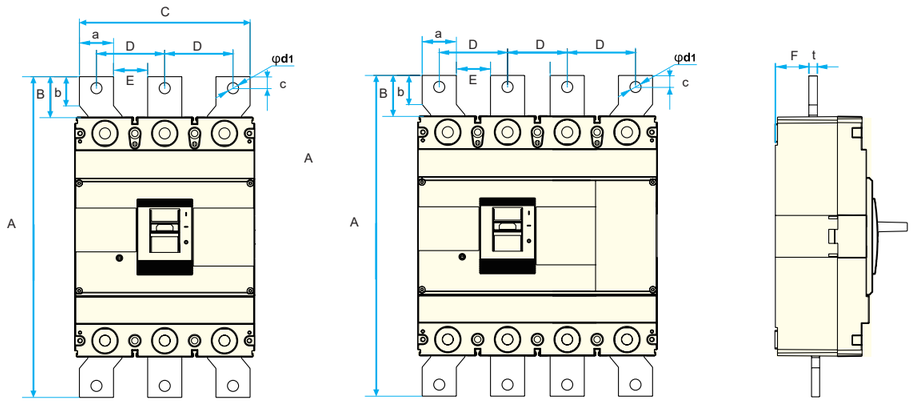
Front extended copper bars(C)	MODEL: FJ-BQJC-ASKM3L

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	15	15	7.5	8.5	4
250A	245	40	104	42	22	22.5	20	23	9	9	5
400A	340	41	148	60	32	38	28	25	15	14	6
630A	376	48	200	80	40	40	40	34	14	13	10

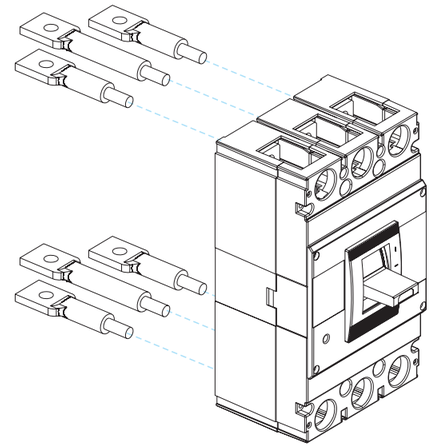
External Optional Accessory- Rear Copper Bars

Optional rear wiring is available for ASKM3L circuit breaker.

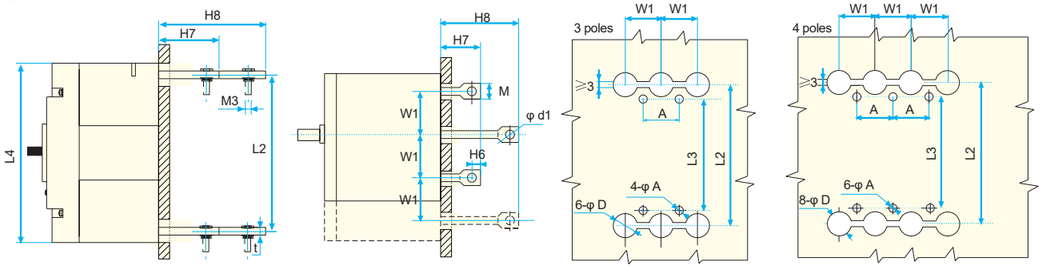
Rear wiring(R)	MODEL: FJ-BHJX-ASKM3L

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

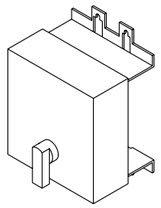
External Optional Accessory-Electric Operating Mechanism

Optional CD1 type or CD2 type electric operating mechanism is available for ASKM3L circuit breaker.

Electric operating mechanism-CD1 — MODEL: FJ-DC/CD1-ASKM3L-250

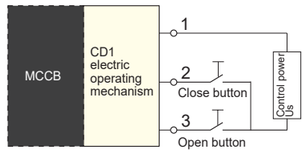
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally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

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

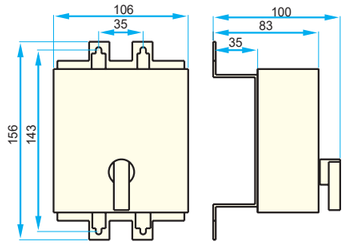


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V

Wiring diagram:



Installation schematic diagram:

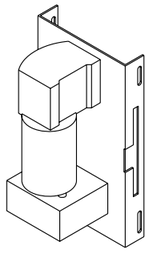


Applicable frame: 125, 250

Electric Operating Mechanism- CD1 — MODEL: FJ-DC/CD1-ASKM3L-400

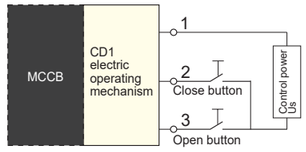
Usage:
The electric operating mechanism is installed on the front side of the molded case circuit breaker. It realizes remote breaking and re-closing function through external control signal, and completes centralized monitoring and automatic control of transmission and distribution network. Internally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

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

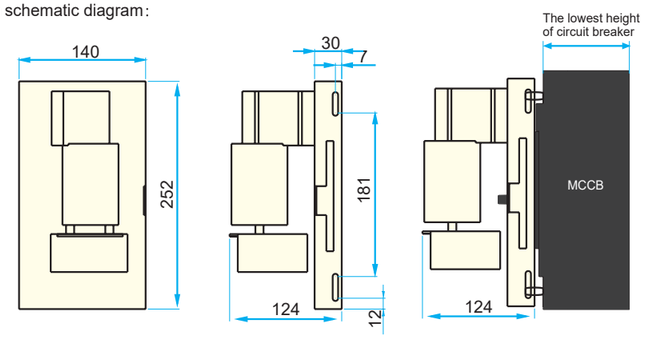


Control power: Us=(85%-110%) Ue
Frequency: 50Hz
Ue:rated operational power supply of electric operating mechanism
Default voltage:AC 230V
Optional voltage: AC 220V
AC 380V
AC 400V
DC 220V

Wiring diagram:



Installation schematic diagram:

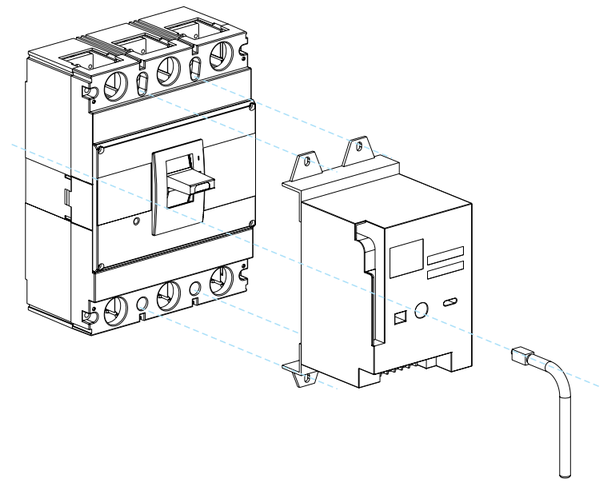


Electric Operating Mechanism- CD2 — MODEL: FJ-DC/CD2-ASKM3L

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.

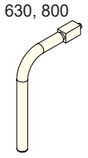
Applicable frame: 125-630 whole series
Standard wiring method: Terminal type

Wiring diagram:



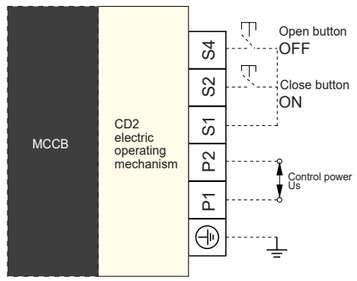
Manual handle:
frame 125, 250

frame 400, 630, 800

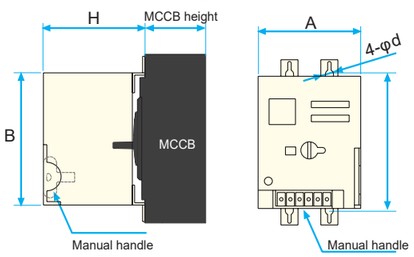


Control power: Us=(70%-110%) Ue
Frequency: 50Hz
Ue:rated operational voltage of shunt tripper
Default voltage:AC 220V
Optional voltage: AC 110V
DC 220V
DC 110V
DC 24V

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			
ASKM3L-125	90	116	94	4.5	≤0.5	14000	14
ASKM3L-250	90	116	90	4.5	≤0.5	14000	14
ASKM3L-400	130	176	143	6.5	≤2	5000	35
ASKM3L-630	130	176	147	6.5	≤2	5000	35

External Optional Accessory-Manual Operating Mechanism

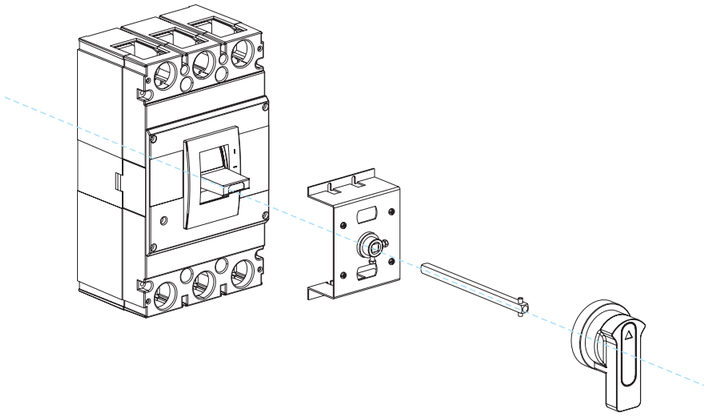
Optional manual operating mechanism is available for ASKM3L circuit breaker.

Manual operating mechanism	MODEL: FJ-SC-ASKM3L

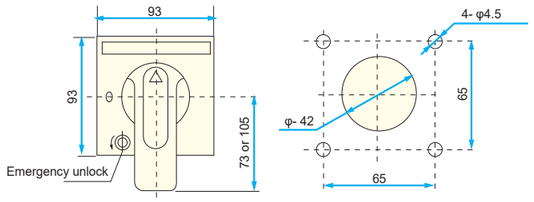
Usage:
The manual operating mechanism is installed on the front of the circuit breaker. Through rotating handle, it realizes the requirement of operation on the panels of drawer cabinet, distribution cabinet, power box, etc. It also provides the function of interlocking between the circuit breaker and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

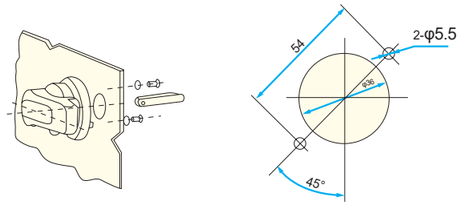


Square handle dimensions: type F



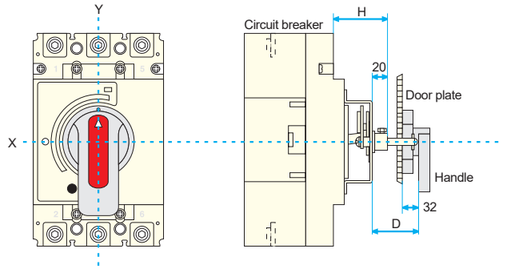
Square handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

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	ASKM3L-125	ASKM3L-250	ASKM3L-400	ASKM3L-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

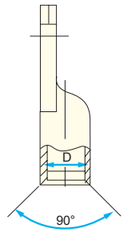
Rated current(A)	Cable		Copper bars	
	Cross section area(mm²)	Quantity	Size(mm×mm)	Quantity
500	150	2	30x5	2
630	185	2	40x5	2
700/800	240	2	50x5	2

MODEL OF WIRING TERMINALS

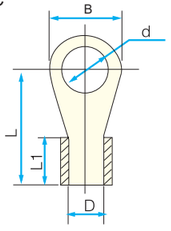
JGC\JBC wiring terminal reference dimension

JGC

JGC

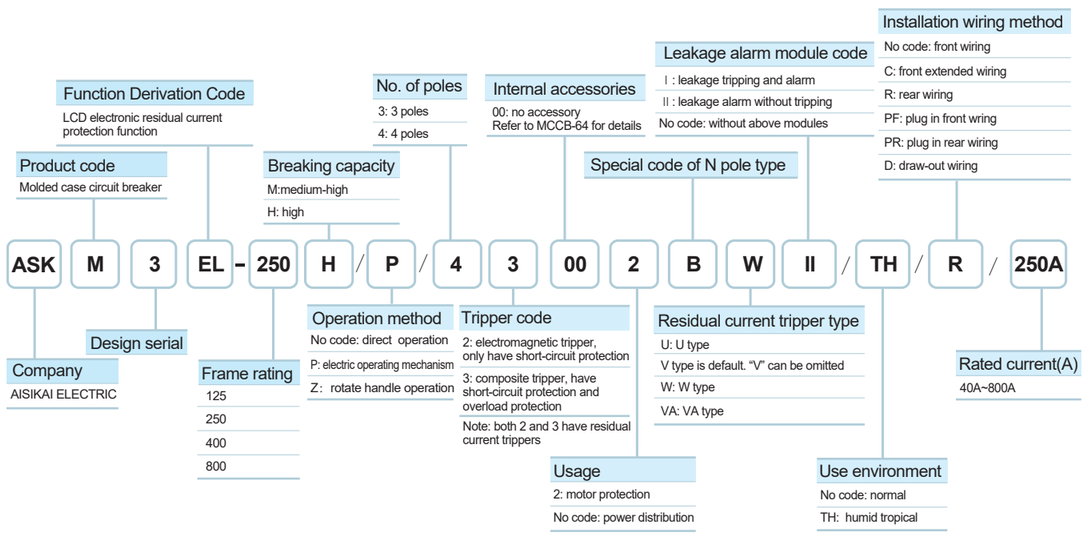


JBC



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

ASKM3EL LCD INTELLIGENT ELECTRONIC 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

ASKM3EL

Model definition 1:

ASKM3EL-125HP/43002AWII/TH/R, In=125A

1. LCD electronic leakage protection molded case circuit breaker, 125A frame, high breaking capacity, electric operating mechanism;
2. 4 poles, composite tripper, no accessory;
3. for motor protection. N poles does not have over-current tripper (A type). 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:

ASKM3EL-250M/4300/250A

1. LCD electronic leakage protection molded circuit breaker, 250A frame, medium-high breaking capacity, manual operation(implicit);
2. 4 poles, electronic tripper, no accessory;
3. for power distribution (implicit), N poles does not have over-current tripper,N pole breaks/closes along with the other three poles(B type, implicit);
4. V type residual current tripper(implicit), without 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

ASKM3EL LCD INTELLIGENT ELECTRONIC LEAKAGE PROTECTION MOLDED CASE CIRCUIT BREAKER

OVERVIEW

Basing on the ASK3E-Y MCCB, we integrate the residual current protection function, we produce a new LCD intelligent electronic leakage protection type circuit breaker ASKM3EL (MCCB for short). MCCB can display real-time three phases currents, voltages and residual currents and upload data through communication network, realizing four remote functions and meeting the requirements of "Low-voltage molded case circuit breaker communication protocol".

MCCB have protections for overload, short-circuit, under-voltage, over-voltage, phase-loss, zero-loss, can protect circuits and equipment from damage. MCCB also have residual current protection, providing protection against dangerous voltage exposure to people due to insulation damage. The selective protections of ACB have high accuracy, which can improve the reliability of power supply and avoid unnecessary power outages

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. Special places can use leakage alarm non-tripping module to avoid major losses caused by power outages. MCCB meet the requirements of Article 4.6 of GB13955-2005.

CLASSIFICATION

● Classified by wiring method

Front wiring, extended front wiring, rear wiring, plug in front wring, plug in rear wiring, draw out front wiring, draw out rear 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

● Compatible and Small

Have rich functions and small size. Have the same dimensions as ASKM3E, convenient to use in combination.

Excellent Performance

The ultimate short-circuit breaking capacity is up to 75KA. The operation life is up to 10000 times. Rated impulse withstand voltage is up to 12KV. With isolation function, High reliability, correct indication, excellent performance.

Meet Requirements of Intelligent Management

Integrated protection functions of overload, short-circuit, under-voltage, over-voltage, phase-loss, zero-loss. Can install all kinds of accessories, auxiliary, alarm, under-voltage, shunt, etc, meeting requirements of all kinds of controls.

Intelligent Communication

Built-in RS485 communication interface. With remote measurement, remote communication, remote control, remote adjustment and other functions to achieve intelligent management of the power grid.

User Friendly Man-Machine Interface

It adopts large LCD display, which automatically and cyclically displays real-time current, voltage, product breaking and closing status, fault tripping cause, fault tripping phase sequence and tripping parameters, with clear operation interface. Users can easily realize the control and parameter adjustment of circuit breaker on the circuit breaker panel.

APPLICATIONS

Civil Commercial Industrial

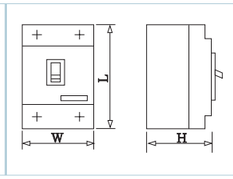
NORMAL OPERATIONAL CONDITIONS AND INSTALLATION METHODS

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 .
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. 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.

MAIN TECHNICAL PARAMETERS



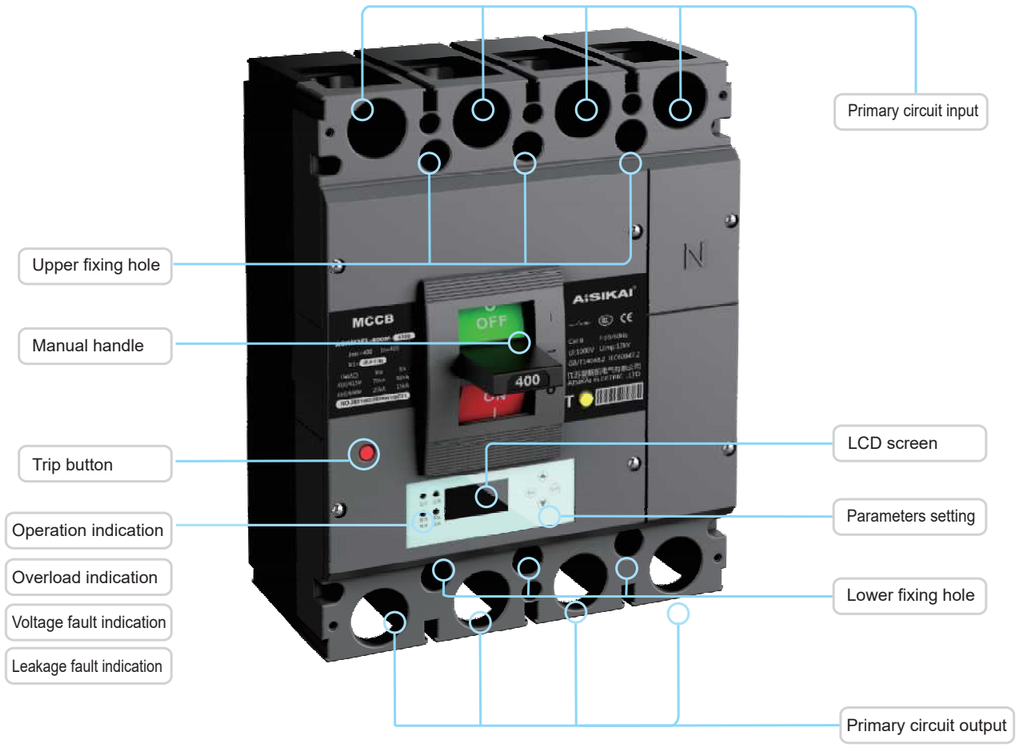

Technical performance specifications

Model		ASKM3EL-125		ASKM3EL-250		ASKM3EL-400		ASKM3EL-800	
Frame rating current Inm(A)		125		250		400		800	
Rated current In(A)		40-125		100-250		160-400		630(250-630)/800(315-800)	
No. of poles		3/4		3/4		3/4		3/4	
Rated insulation voltage Ui(V)		AC1000		AC1000		AC1000		AC1000	
Rated operational voltage Ue(V)		AC380/AC400/AC415		AC380/AC400/AC415		AC380/AC400/AC415		AC380/AC400/AC415	
Rated impulse withstand voltage Uimp(V)		12		12		12		12	
Arc distance(mm)		≥ 50(0)**		≥ 50(0)**		≥ 100(0)**		≥ 100(0)**	
Breaking capacity level		M	H	M	H	M	H	M	H
Ultimate short-circuit breaking capacity Icu(kA)	AC400V	50	85	50	85	70	85	70	100
Service short-circuit breaking capacity Ics(kA)	AC400V	35	65	35	65	50	65	50	65
Rated short-time withstand current Icw(kA)/1s		10		10		10		10	
Use category		B		B		B		B	
Over-current tripper type/residual current tripper type		Electronic/Electronic AC type		Electronic/Electronic AC type		Electronic/Electronic AC type		Electronic/Electronic AC type	
Rated residual action current I△n(A)		50/100/150/200/300/500/1000		50/100/150/200/300/500/1000		50/100/150/200/300/500/1000		50/100/150/200/300/500/1000	
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)	107/142		107/142		150/198		210/280	
	L	165		165		257		400	
	H	105		105		110		114.5	

*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 7.5mm zero arc cover for 125 frame, 7.5mm for 250 frame, 9.3mm for 400 frame, 9.5mm for 800frame, realizing zero arc.

INDICATION STRUCTURE INTRODUCTION

Circuit Breaker Front Indication



Use the buttons on the panel to manipulate the circuit breaker

Use “Enter” “Back” “△” “▽” to modify the contents on the screen;
“Operation” indication: lit on when the circuit breaker is working normally;
“Overload” indication: flashes when the circuit breaker is in pre-alarm condition, lit on when the circuit breaker is in overload tripping condition;
“Voltage fault” indication: lit on when the circuit breaker in in under-voltage, under-voltage or phase-loss condition;
“Leakage fault” indication: when the leakage current reaches 50% of the action value, the red light flashes; when the leakage current reaches 70%-80% of the action value, the red light is lit on.

FUNCTIONS TABLE

Standard functions table

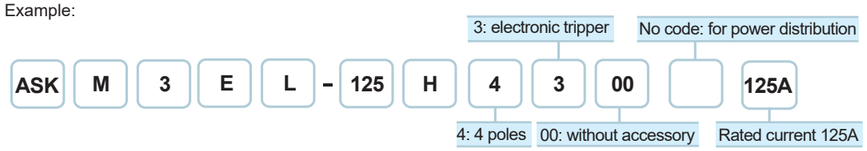
Measurement	Current measurement	I1, I2, I3, IN
	Residual current measurement	I△n
	Voltage measurement	Line voltage: U12, U23, U31
		Phase voltage: U1N, U2N, U3N
Maintenance	Setting	Menu setting
	Fault memory	Overload, short-circuit delay, short-circuit instantaneous, grounding, fault phase sequence
		Over-voltage protection, under-voltage protection, fault phase sequence
		Phase-loss protection, zero-loss protection, fault phase sequence
		Residual current tripping value, residual current tripping time
	History records(the last 10 fault communication output)	
Display	Real-time current value	
	Real-time voltage value	
	Setting value display(include rated residual action current, limit non-actuate time)	
	Last fault type, fault current or fault voltage, time of fault	

Optional functions table

Optional functions table			Default setting	Optional setting	
Protection / alarm	Long delay protection		Trip	Alarm	Off
	Short delay protection		Trip	Alarm	Off
	Short-circuit instantaneous protection		Trip	Alarm	Off
	Over-voltage protection		Off	Alarm	Trip
	Under-voltage protection		Off	Alarm	Trip
	Phase-loss protection		Off	Alarm	Trip
	Zero-loss protection		Off	Alarm	Trip
	Overload pre-alarm		Off	Alarm	
	Grounding fault protection		No	Optional	
	Residual current alarm and trip	Choose one of two	No	Optional	
	Residual current alarm without trip		No	Optional	
Communication function	General MODBUS communication	Choose one of two	Have		
	Special “Low-voltage molded case circuit breaker communication protocol”			Optional	

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:



Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current / Voltage Setting Value	Action Characteristics/time
Overload long delay L	125	125	Ir1=12.5-125	Act by I²rt 1.05Ir1: no act within 2 h 1.3Ir1: act within 1h 2Ir1: t1=12s adjustable parameters: t1= (12, 60, 80, 100, 150)s
	250	250	Ir1=63-250	
	400	400	Ir1=160-400	
	800	630	Ir1=250-630	
		800	Ir1=315-800	
	Action allowed error			1.3Ir1~3In: ± 10%; ⩾3In: ± 20%
Short-circuit short delay S	125	125	Ir2 = 8Ir1 adjustable parameters: Ir2=(2~12)Ir1	1.5Ir2: t2=(0.06-0.1-0.2-0.3-0.4)s Definite-time: t2=0.06, 0.1, 0.2s: ± 0.03s t2=0.3, 0.4s: ± 15% Note: when Ir2⩽1<1.5Ir2, inverse-time action; when 1.5Ir2⩽1<Ir3, definite-time action; Inverse-time or definite-time is optional.
	250	250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Short-circuit instantaneous I	125	125	Ir3 = 10Ir1 adjustable parameters: Ir2=(4~14) Ir1	Act instantaneously < 0.2
	250	250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Neutral pole protection 4 poles C type	Whole series	125~800	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	1~30s
Overload pre-alarm	Whole series	125~800	Ir0=0.9Ir1 adjustable parameters: Ir0=(0.7~1.0)×Ir1	1~30s
Over-voltage protection	Whole series	125~800	Phase voltage: 253V~286V; Line voltage: 266V~323V	1s
	Action allowed error		1V	± 5%
	Progressive gradation		± 5%	1~30s
Under-voltage protection	Whole series	125~800	Phase voltage: 154V~187V; Line voltage: 266V~323V	1s
	Action allowed error		1V	± 5%
	Progressive gradation		± 5%	1~5s
Phase-loss, zero-loss protection	Whole series	125~800		± 5%
	Progressive gradation			
Residual current protection	Whole series	125~800	50/100/150/200/300/500/1000/OFF adjustable	No delay type: Maximum breaking time(ms) < 40

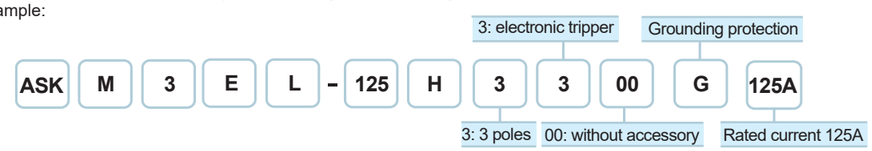
No delay time, delay adjustable type:

Delay time △t(ms) (limit non-actuate time)	0	100	200	300	500	1000
Maximum breaking time (ms)	<150	<250	<350	<550	<950	<1900

Note: according to GB/T 14048.2
for no delay type, the base action current 5I△n;
for delay type, the base action current is 2I△n.

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

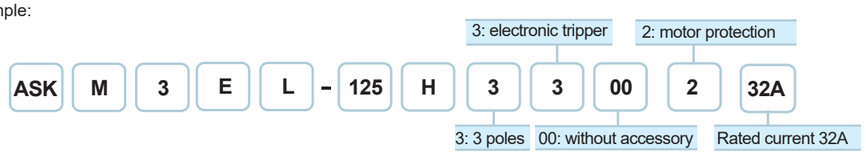
The circuit breaker for power distribution equipped with electronic tripper has 4 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous, grounding protection).
The protection characteristics are factory set according to the following parameters.
Model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



Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current / Voltage Setting Value	Action Characteristics/time
Overload long delay L	125	125	Ir1=12.5-125	Act by I²rt 1.05Ir1: no act within 2 h 1.3Ir1: act within 1h 2Ir1: t1=12s adjustable parameters: t1= (12, 60, 80, 100, 150)s
	250	250	Ir1=63-250	
	400	400	Ir1=160-400	
	800	630	Ir1=250-630	
		800	Ir1=315-800	
	Action allowed error			1.3Ir1~3In: ± 10%; ⩾3In: ± 20%
Short-circuit short delay S	125	125	Ir2 = 8Ir1 adjustable parameters: Ir2=(2~12)Ir1	1.5Ir2: t2=0.3s Definite-time: t2=(0.06-0.1-0.2-0.3-0.4)s t2=0.06, 0.1, 0.2s: ± 0.03s t2=0.3, 0.4s: ± 15% Note: when Ir2⩽1<1.5Ir2, inverse-time action; when 1.5Ir2⩽1<Ir3, definite-time action; Inverse-time or definite-time is optional.
	250	250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Short-circuit instantaneous I	125	125	Ir3 = 10Ir1 adjustable parameters: Ir2=(4~14) Ir1	Act instantaneously < 0.2
	250	250		
	400	400		
	800	630		
		800		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Grounding protection	Whole series	125~800	Ir4=0.8In adjustable parameters: Ir4=(0.3~0.8)In+OFF	<0.5Ir4 do not act act, > 1.0Ir4 delay act
	Action allowed error		0.1In	t4=0.4 s+20% adjustable parameters:t4=0.1/0.2/0.3/0.4s
	Progressive gradation		± 15%	0.1s±0.03s; 0.2s±0.03s; 0.3s,0.4s: ±15%
Neutral pole protection 4 poles C type	Whole series	125~800	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	
Overload pre-alarm	Whole series	125~800	Ir0=0.9Ir1 adjustable parameters: Ir0=(0.7~1.0)×Ir1	
Over-voltage protection	Whole series	125~800	Phase voltage: 253V~286V; Line voltage: 437V~494V	± 5%
	Action allowed error		1V	1~30s
	Progressive gradation		± 5%	1s
Under-voltage protection	Whole series	125~800	Phase voltage: 154V~187V; Line voltage: 266V~323V	
	Action allowed error		1V	± 5%
	Progressive gradation		± 5%	1~5s
Phase-loss, zero-loss protection	Whole series	125~800		± 5%
	Action allowed error			
Residual current protection	Whole series	125~800	50/100/150/200/300/500/1000/OFF adjustable	Note: same as 3 sections protection parameters.

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

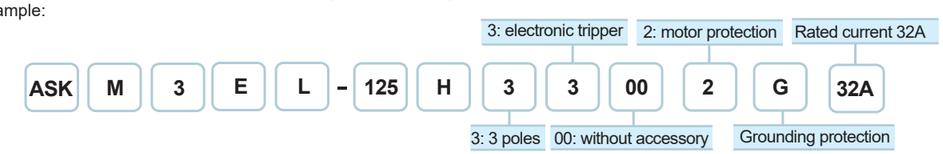
The circuit breaker for motor protection equipped with electronic tripper has 3 section protection (LSI, i.e. overload long delay, short-circuit short delay, short-circuit instantaneous).
The protection characteristics are factory set according to the following parameters.
Model Example:



Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current / Voltage Setting Value	Action Characteristics/time
Overload long delay L	125	125	Ir1=40-125	Act by I²rt, t1=12s,can be adjusted to 60/80/150s 1.05Ir1: no act within 2 h 1.2Ir1: act within 1h 1.5Ir1: 21.3s 107s 142s 178s 267s 2Ir1, t1: 12s 60s 80s 100s 150s 7.2Ir1: 0.93s 4.63s 6.17s 7.72s 11.6s tripping level: – 10 10 20 30
	250	250	Ir1=100-250	
	400	400	Ir1=160-400	
	800	630	Ir1=250-630	
	Action allowed error			1.3Ir1~3In: ± 10%; ⩾3In: ± 20%
Short-circuit short delay S	125	125	Ir2 = 8Ir1 adjustable parameters: Ir2=(2~12)Ir1	1.5Ir2: t2=0.3s Definite-time: t2=0.06, 0.1, 0.2s: ± 0.03s t2=0.3, 0.4s: ± 15% Note: when Ir2⩽1<1.5Ir2, inverse-time action; when 1.5Ir2⩽1<Ir3, definite-time action; Inverse-time or definite-time is optional.
	250	250		
	400	400		
	800	630		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Short-circuit instantaneous I	125	125	Ir3 = 12Ir1 adjustable parameters: Ir3=(4~14) Ir1	Act instantaneously < 0.2
	250	250		
	400	400		
	800	630		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Neutral pole protection 4 poles C type	Whole series	125~630	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	
Overload pre-alarm	Whole series	125~630	Ir0=0.9Ir1 adjustable parameters: Ir0=(0.7~1.0)×Ir1	
Over-voltage protection	Whole series	125~630	Phase voltage: 253V~286V; Line voltage: 437V~494V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Under-voltage protection	Whole series	125~630	Phase voltage: 154V~187V; Line voltage: 266V~323V	1~30s
	Action allowed error		1V	1s
	Progressive gradation		± 5%	± 5%
Phase-loss, zero-loss protection	Whole series	125~630		1~5s
	Progressive gradation			± 5%
Residual current protection	Whole series	125~630	50/100/150/200/300/500/1000/OFF adjustable	No delay type: Maximum breaking time(ms) < 40
				No delay time, delay adjustable type: Delay time △t(ms) (limit non-actuate time): 0 100 200 300 500 1000 Maximum breaking time (ms): <150 <250 <350 <550 <950 <1900 Note: according to GB/T 14048.2 for no delay type, the base action current 5I△n; for delay type, the base action current is 2I△n.

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:



Protection Function	Frame Rating (Inm)	Rated Current In(A)	Current / Voltage Setting Value	Action Characteristics/time
Overload long delay L	125	125	Ir1=12.5-125	Act by I²rt, t1=12s,can be adjusted to 60/80/150s 1.05Ir1: no act within 2 h 1.2Ir1: act within 1h 1.5Ir1: 21.3s 107s 142s 178s 267s 2Ir1, t1: 12s 60s 80s 100s 150s 7.2Ir1: 0.93s 4.63s 6.17s 7.72s 11.6s tripping level: – 10 10 20 30
	250	250	Ir1=63-250	
	400	400	Ir1=160-400	
	800	630	Ir1=250-630	
	Action allowed error			1.3Ir1~3In: ± 10%; ⩾3In: ± 20%
Short-circuit short delay S	125	125	Ir2 = 8Ir1 adjustable parameters: Ir2=(2~12)Ir1	1.5Ir2: t2=0.3s Definite-time: t2=(0.06-0.1-0.2-0.3-0.4)s t2=0.06, 0.1, 0.2s: ± 0.03s t2=0.3, 0.4s: ± 15% Note: when Ir2⩽1<1.5Ir2, inverse-time action; when 1.5Ir2⩽1<Ir3, definite-time action; Inverse-time or definite-time is optional.
	250	250		
	400	400		
	800	630		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Short-circuit instantaneous I	125	125	Ir3 = 10Ir1 adjustable parameters: Ir2=(4~14) Ir1	Act instantaneously < 0.2
	250	250		
	400	400		
	800	630		
	Action allowed error		1Ir1	
	Progressive gradation		± 15%	
Grounding protection	Whole series	125~800	Ir4=0.8In adjustable parameters: Ir4=(0.3~0.8)In+OFF	<0.5Ir4 do not act act, > 1.0Ir4 delay act
	Action allowed error		0.1In	t4=0.4 s+20% adjustable parameters:t4=0.1/0.2/0.3/0.4s
	Progressive gradation		± 15%	0.1s±0.03s; 0.2s±0.03s; 0.3s,0.4s: ±15%
Neutral pole protection 4 poles C type	Whole series	125~800	Ir1N=Ir1, Ir2N=Ir2, Ir3N=Ir3	
Overload pre-alarm	Whole series	125~800	Ir0=0.9Ir1 adjustable parameters: Ir0=(0.7~1.0)×Ir1	
Over-voltage protection	Whole series	125~800	Phase voltage: 253V~286V; Line voltage: 437V~494V	± 5%
	Action allowed error		1V	1~30s
	Progressive gradation		± 5%	1s
Under-voltage protection	Whole series	125~800	Phase voltage: 154V~187V; Line voltage: 266V~323V	
	Action allowed error		1V	± 5%
	Progressive gradation		± 5%	1~5s
Phase-loss, zero-loss protection	Whole series	125~800		± 5%
	Action allowed error			
Residual current protection	Whole series	125~800	50/100/150/200/300/500/1000/OFF adjustable	Note: same as 3 sections protection parameters.

INTERNAL OPTIONAL ACCESSORIES

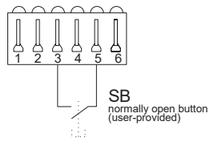
The ASKM3EL electronic circuit breaker has five basic accessory modules available for optional installation inside the switch.

Shunt Tripper MODEL: FJ-FT-ASKM3EL

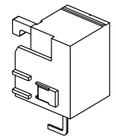
Usage:
Shunt tripper is used to remotely control the breaking of the circuit breaker, realizing the intelligent operation of power distribution with external control circuits.

Control signal:
passive close dry contact control

Wiring diagram:



Outline:

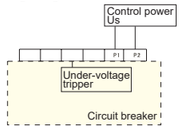


Under-voltage tripper MODEL: FJ-QT-ASKM3EL

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)

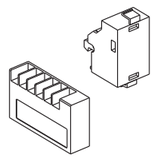
1.Control power voltage Us1: when Us1=(35%-70%)Ue, the under-voltage tripper can reliably break circuit breaker.
2.Control power voltage Us2: when Us2:Us2=(85%-110%)Ue, the circuit breaker can close normally.
3.Control power voltage Us3: when Us3≤35%Ue, the under-voltage tripper can prevent circuit breaker 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.

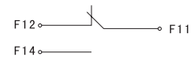
Outline:



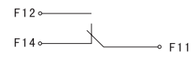
Auxiliary switch FJ-FC-ASKM3EL

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

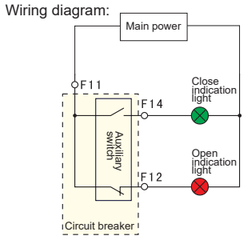


When circuit breaker is at closing position

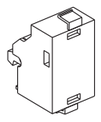


Conventional thermal current: Ith=3A

Wiring diagram:



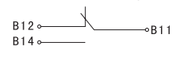
Outline:



Alarm switch FJ-BC-ASKM3EL

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

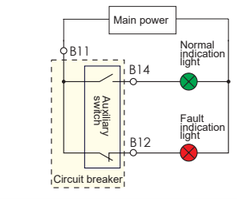
When circuit breaker is at position of open/closed



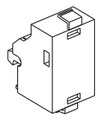
When circuit breaker is at position of free trip&fault trip

Conventional thermal current: Ith=3A

Wiring diagram:



Outline:



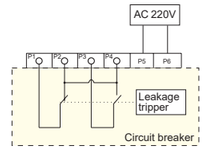
Leakage alarm module code MODEL: FJ-LDBJ-ASKM3EL

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.

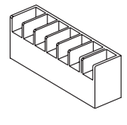
The leakage alarm unit has two modules:
Ⅰ leakage alarm and tripping
The module issues alarm signal and the circuit breaker trips in case of leakage.
Ⅱ leakage alarm without tripping
The module issues alarm signal but the circuit breaker does not trip in case of leakage.

Wiring diagram:



Conventional thermal current: Ith=3A

Outline:



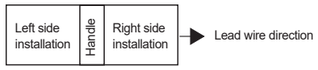
INTERNAL ACCESSORIES CODE TABLE

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

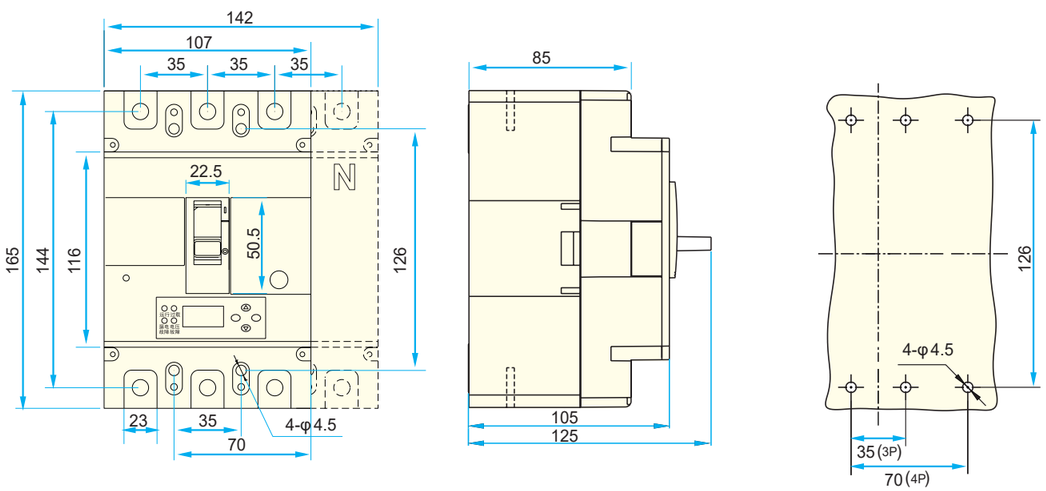


Code	Accessory	ASKM3EL-125/250		ASKM3EL-400			ASKM3EL-800
		3P	4P	3P	4P		3P/4P
00	No accessory						
08	Alarm switch	◂□	◂□	◂□	◂□	◂□	◂□
10	Shunt tripper	◂●	◂●	◂●	◂●	◂●	◂●
20	Auxiliary switch(1NO1NC)	◂■	◂■				
	Auxiliary switch(2NO2NC)			◂■	◂■	◂■	◂■
02	Auxiliary switch(2NO2NC)	◂■	◂■				
30	Under-voltage 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			◂■□	◂■□	◂■□	◂■□
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		◂○■□▸				

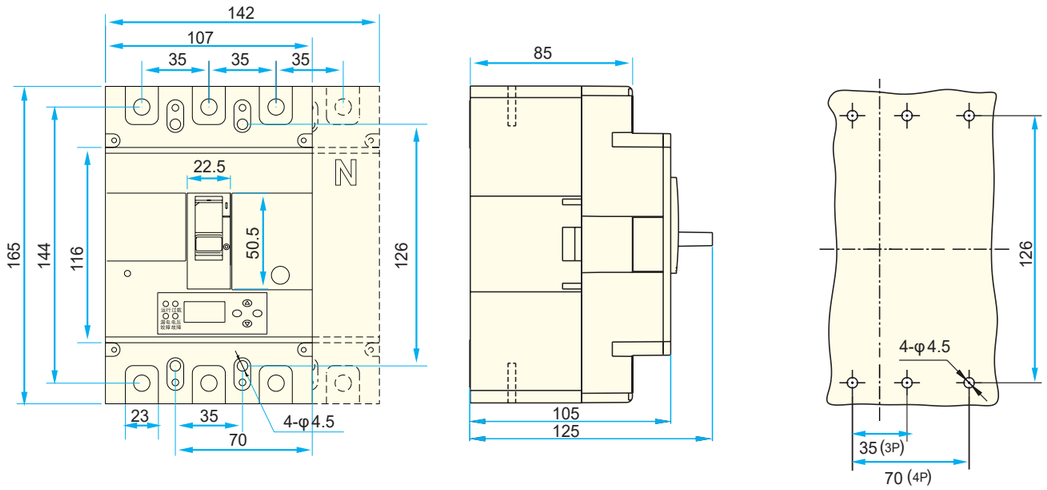
OUTLINE AND INSTALLATION DIMENSIONS

Front wiring

ASKM3EL -125 Frame

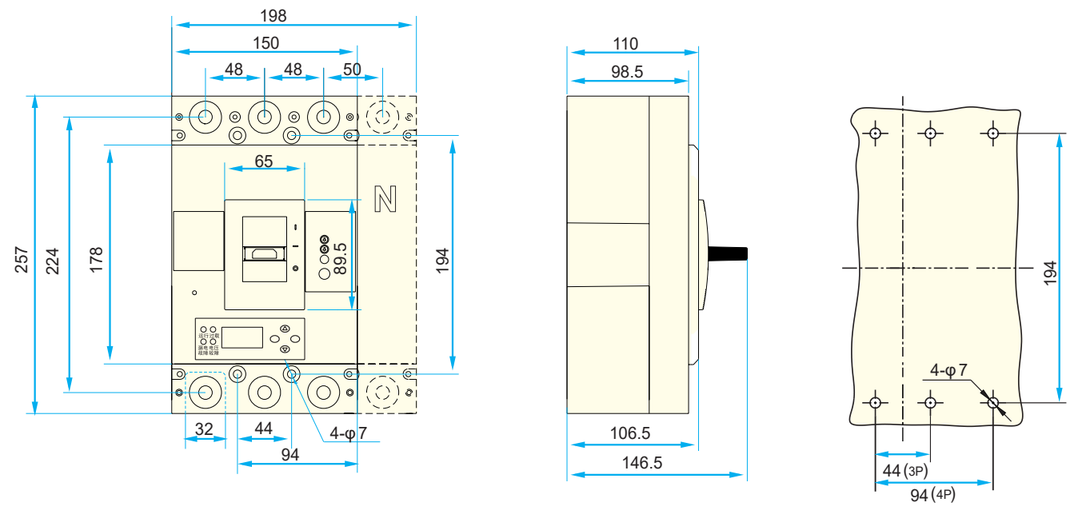


ASKM3EL -250 Frame

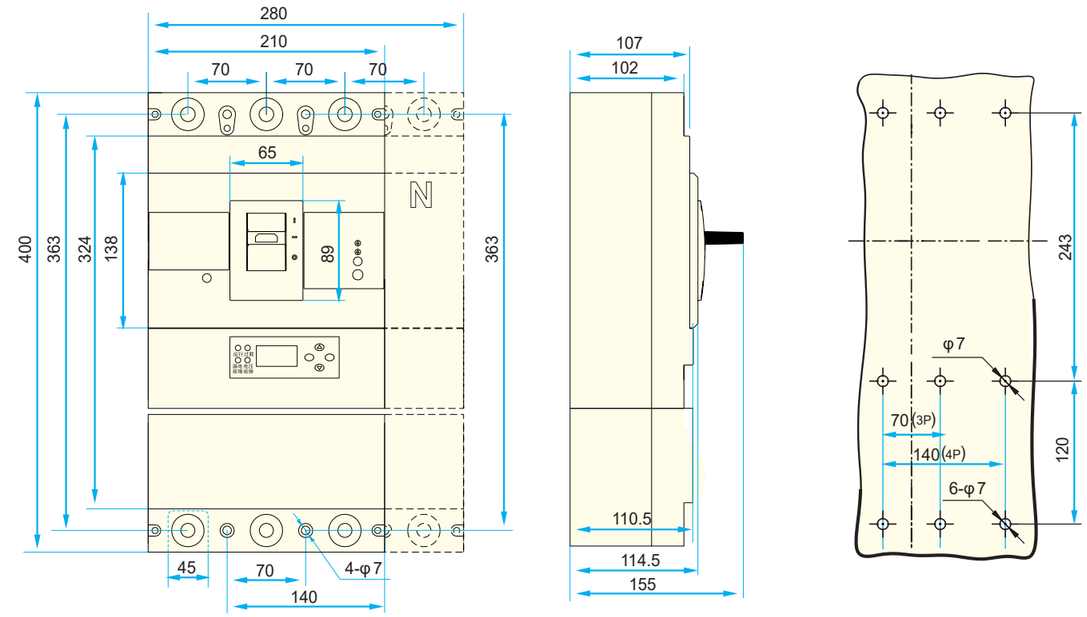


Front wiring

ASKM3EL -400 Frame



ASKM3EL -800 Frame



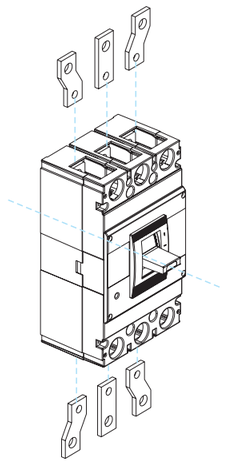
External Optional Accessory- Front Extended Copper Bars

Optional front extended bars are available for ASKM3EL circuit breaker.

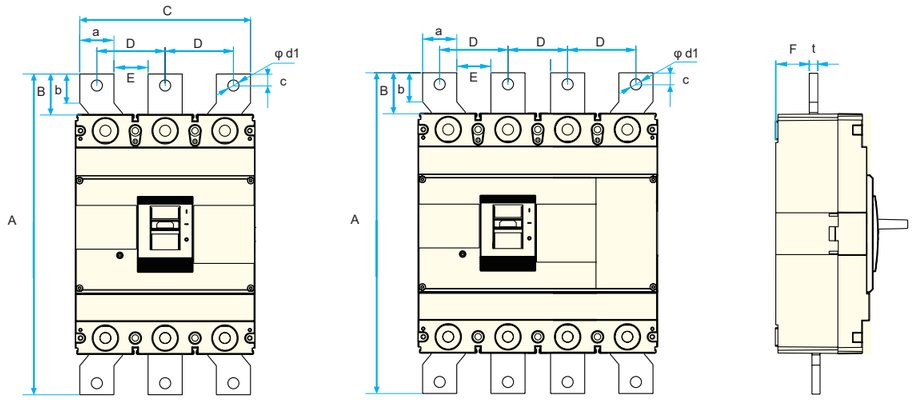
Front extended copper bars(C)	MODEL: FJ-BQJC-ASKM3EL

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	22.5	15	15	7.5	8.5	4
250A	245	40	104	42	22	22.5	20	23	9	9	5
400A	340	41	148	60	32	38	28	25	15	14	6
800A	496	48	200	80	40	40	40	34	14	13	10

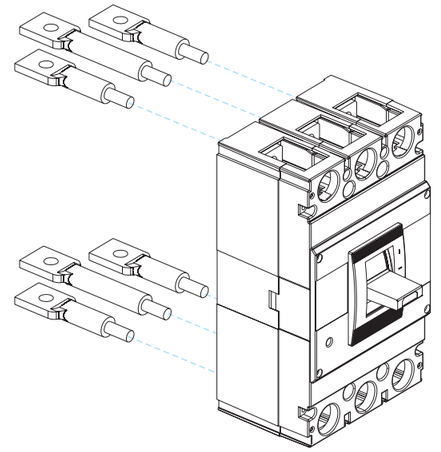
External Optional Accessory- Rear Copper Bars

Optional rear wiring is available for ASKM3EL circuit breaker.

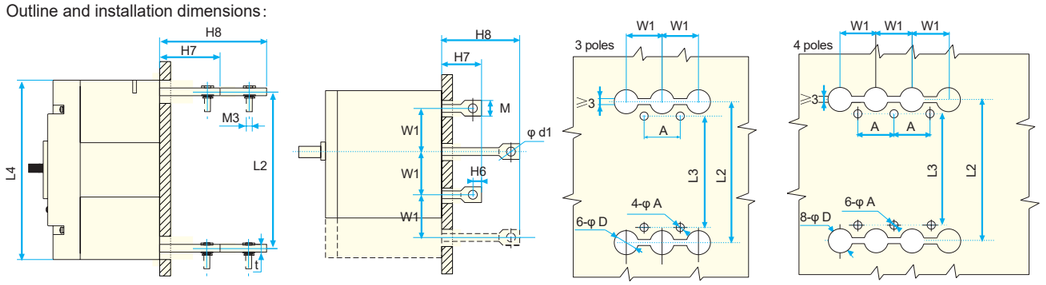
Rear wiring(R)	MODEL: FJ-BHJX-ASKM3EL

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	800A
A	30	35	44	70
φ A	4.5	4.5	7	7
φ D	10	12	33	37
L2	132	144	224	363
L3	126	126	194	363
L4	150	165	257	400
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

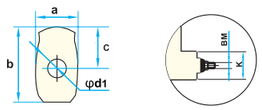
External Optional Accessory- Plug-in Rear Wiring Base

Optional plug-in rear wiring base is available for ASKM3EL circuit breaker.

Plug-in rear wiring base(PR)	MODEL: FJ-BHDZ-ASKM3EL

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)

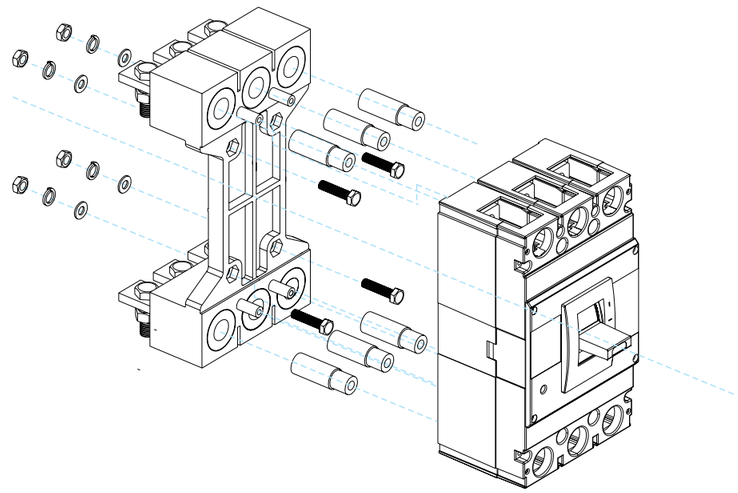


125-400 Frame

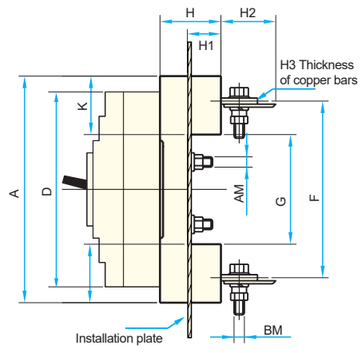
800 Frame

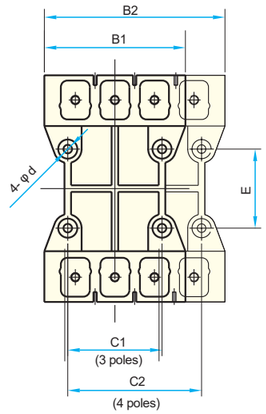
Frame	a	b	c	d1
125	21	36	20	8
250	21	36	20	8
400	30	43	22	12
630/800	BM=M14(Bolt outlet wire)			

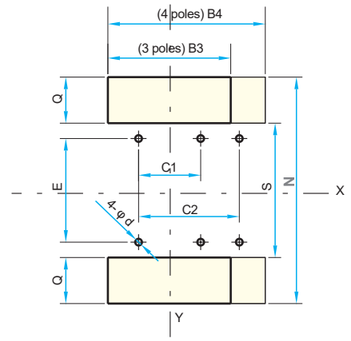
Installation schematic diagram:



Outline and installation dimensions:







Installation plate opening dimensions(mm)

Note: All 4P bases are split type.

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	186	107	145	70	90	165	54	144	94	46	50	33	37	5.5	196	84	56	117	155
250A	186	107	145	70	105	165	54	144	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	425	210	280	90	162	400	266	363	301	62	87	60	16	/	435	291	72	220	290

External Optional Accessory-Electric Operating Mechanism

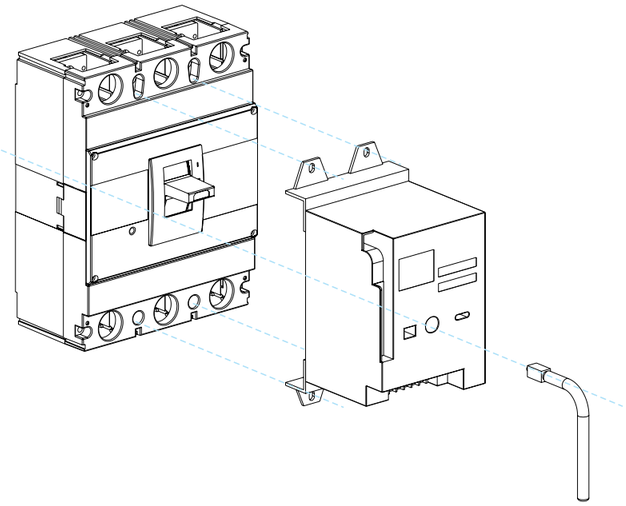
Optional CD2 type electric operating mechanism is available for ASKM3EL circuit breaker.

Electric Operating Mechanism- CD2	MODEL: FJ-DC/CD2-ASKM3EL

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.

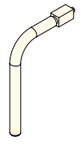
Applicable frame: 125-800 whole series
Standard wiring method: Terminal type

Wiring diagram:



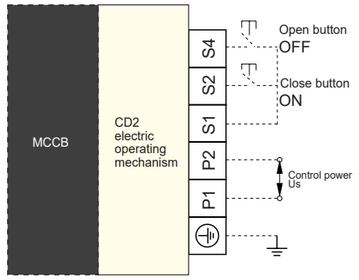
Manual handle:
frame 125, 250

frame 400, 800

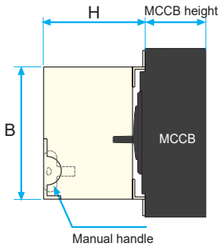


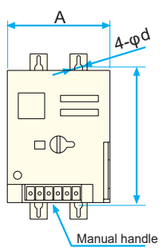
Control power: Us=(70%-110%) Ue
Frequency: 50Hz
Ue:rated operational voltage of shunt tripper
Default voltage:AC 220V
Optional voltage: AC 110V
DC 220V
DC 110V
DC 24V

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			
ASKM3EL-125	90	116	94	4.5	⩽0.5	14000	14
ASKM3EL-250	90	176	90	4.5	⩽0.5	14000	14
ASKM3EL-400	130	176	143	6.5	⩽2	5000	35
ASKM3EL-630	130	176	147	6.5	⩽2	5000	35

External Optional Accessory-Manual Operating Mechanism

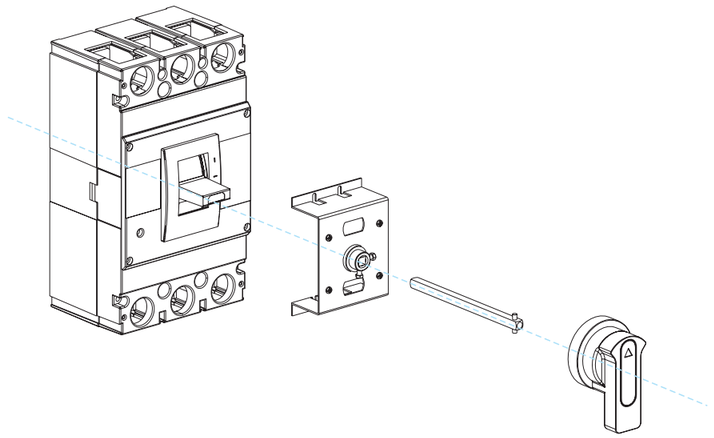
Optional manual operating mechanism is available for ASKM3EL electronic circuit breaker.

Electric Operating Mechanism- CD2	MODEL：FJ-SC-ASKM3EL

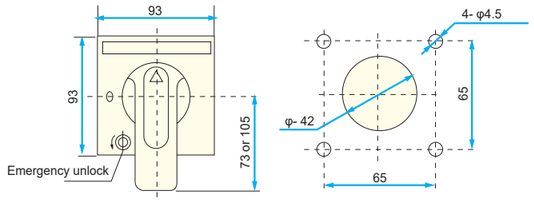
Usage：
The manual operating mechanism is installed on the front of the circuit breaker. Through rotating handle, it realizes the requirement of operation on the panels of drawer cabinet, distribution cabinet, power box, etc. It also provides the function of interlocking between the circuit breaker and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

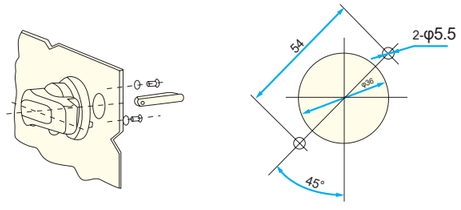


Square handle dimensions: type F



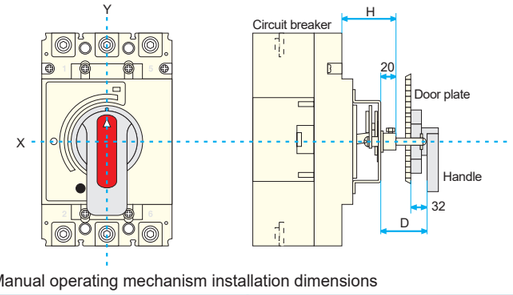
Square handle outline and door plate opening dimensions
(the distance between the center of the opening and the hinge is not less than 100mm)

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	ASKM3E-125	ASKM3E-250	ASKM3E-400	ASKM3E-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

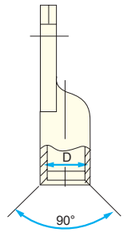
Rated current(A)	Cable		Copper bars	
	Cross section area(mm²)	Quantity	Size(mm×mm)	Quantity
500	150	2	30x5	2
630	185	2	40x5	2
700/800	240	2	50x5	2

MODEL OF WIRING TERMINALS

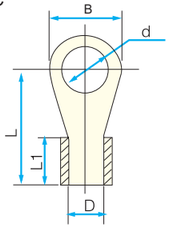
JGC\JBC wiring terminal reference dimension

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