

Scope of application

SJKM1E electronic plastic shell circuit breaker (hereinafter referred to as the circuit breaker) is suitable for AC 50Hz (or 60Hz), with a rated insulation voltage of 800V, a rated working voltage of 400V and below, and a rated working current up to 800A. It is used for infrequent switching and motor starting in circuits. The circuit breaker has overload long delay inverse time limit, short circuit short delay inverse time limit, short circuit short delay fixed time limit short circuit instantaneous and undervoltage protection functions, as well as residual current protection (optional), phase loss protection function (optional), which can protect the line and power equipment from damage. The protection characteristics of the circuit breaker are complete and accurate, which can improve power supply reliability and avoid unnecessary power outages. The "Z, B" type control has a communication interface and can perform "four remote" to meet the requirements of the control center and automation system

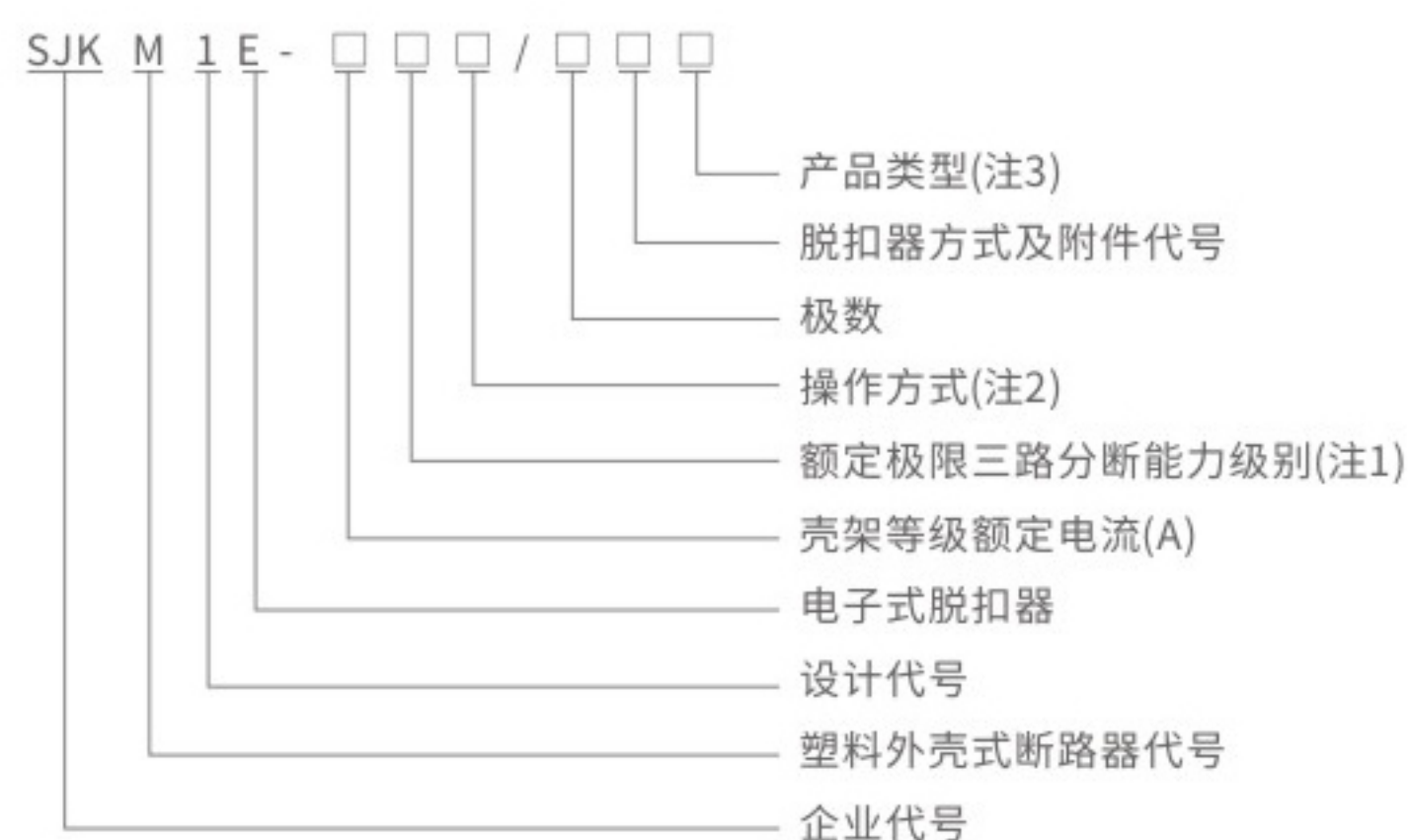
Circuit breakers are divided into two types based on their rated ultimate short-circuit breaking capacity: M-type (higher breaking type) and H-type (high breaking type). This circuit breaker has the characteristics of small size, high breaking capacity, short arcing and anti vibration

Circuit breakers can be installed vertically or horizontally

The circuit breaker has an isolation function, and its corresponding symbol is: x

The circuit breaker cannot be reversed, that is, only 1, 3, and 5 are allowed to be connected to the power line, and 2, 4, and 6 are allowed to be connected to the load line

型号及含义



Note:

- ◆ (1) According to the rated ultimate short-circuit breaking capacity, it is divided into M-type (higher breaking type) and H-type (high breaking type)
- ◆ (2) Direct operation of the handle without code: electric operation is represented by P, and rotating the handle is represented by Z
- ◆ (3) Basic type code, represented by Z for intelligent communication type, B for programming communication type, X for fire protection type, and L for LCD display

Environmental conditions for use

- ◆ Altitude: ≤ 2000m
- ◆ Environmental temperature: -5 °C~+40 °C
- ◆ Can withstand the influence of humid air
- ◆ Can withstand the effects of salt spray and oil spray

The installation category of the main circuit of the circuit breaker is III, and the installation category of the other auxiliary circuits and control circuits is II. When the maximum temperature is +40 °C, the relative humidity of the air should not exceed 50%. Higher relative humidity is allowed at lower humidity levels, and special measures should be taken for occasional condensation caused by temperature changes

The maximum inclination is 22.5 °

- ◆ In a medium without explosive hazards, and where there is no gas or conductive dust that can corrode metals or damage insulation
- In a place without rain or snow invasion

The circuit breaker meets the standard

IEC60947-1 and GB14048.1 General Principles for Low Voltage Switchgear and Control Equipment IEC60947-2 and GB14048.2 "Circuit Breakers for Low Voltage Switchgear and Control Equipment" and Appendix F "Additional Requirements for Circuit Breakers with Electronic Overcurrent Protection" IEC 60947-5.1 and GB14048.5 "Low voltage switchgear and control gear - Control circuits - Electrical apparatus and switching elements"

Main functions and features

Intelligent controller is the core component of molded case circuit breakers, applied to motor protection or distribution protection, realizing measurement, protection, control and communication functions in one, so as to protect the circuit and power equipment from overload, short circuit, grounding and other fault hazards

- ◆ Controlled by MCU microprocessor, stable and reliable performance: This intelligent controller can supply power by itself. As long as it is powered on, when the current is not less than 20% of its rated value, it can ensure the normal operation of the protection function
- ◆ Selective cooperation with three-stage protection: Circuit breakers of Class B and other short-circuit protection devices connected to the same circuit have selective cooperation under short-circuit conditions; Setting of protection function parameters such as overload long delay, inverse time limit, short circuit delay (inverse time limit, timed limit), and short circuit instantaneous
- ◆ It has three protection parameter settings for action current and action time, which can be adjusted in 4-10 levels: users can adjust the controller according to the load current requirements, or choose to turn off the corresponding function according to user requirements (customized function, to be specified by the user when ordering)
- ◆ High current instantaneous tripping function: When the circuit breaker is closed or in operation, if a short circuit with high current ($\geq 20In$) is encountered, the magnetic tripping mechanism of the circuit breaker can be directly tripped, providing more reliable and safe dual protection
- ◆ Equipped with trip testing (test) function: Input DC DC12V voltage test circuit breaker action special note
- ◆ Fault self diagnosis function: protect and detect the working status and operation of the intelligent controller itself
- ◆ Equipped with pre alarm indication and overload indication: when the load current reaches or exceeds the set value, the corresponding light guide column will export the light source

Dual air gap technology for magnetic flux converters: more reliable and stable operation, eliminating misoperation, reliable tripping, and low power

High protection accuracy: The action time accuracy of overload protection and short circuit short delay protection is $\pm 10\%$; The accuracy of the instantaneous short-circuit protection action value is $\pm 15\%$ depending on the action current

Installation is interchangeable: The external dimensions and installation dimensions are the same as those of the SJKM1 series molded case circuit breaker with the same specifications and dimensions

产品功能配置

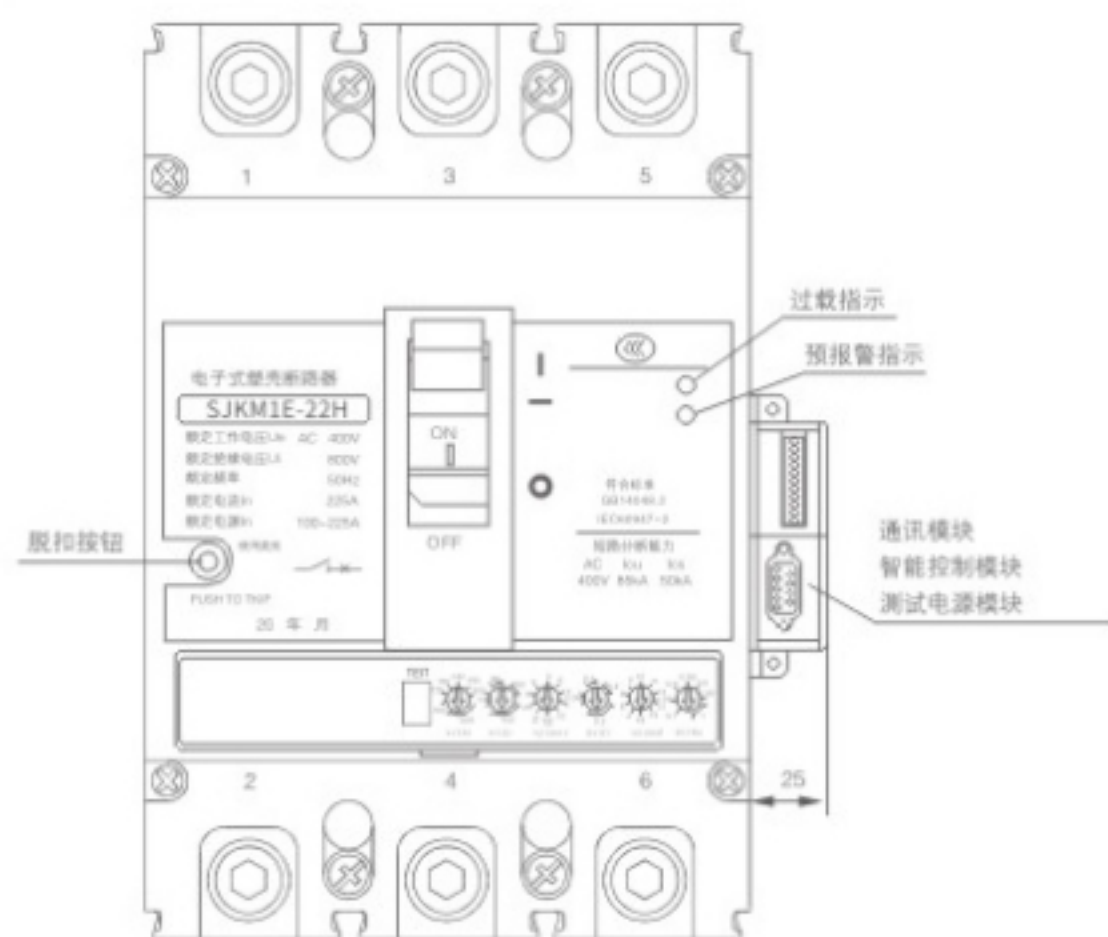
表1产品功能配置表

产品类型	SJKM1E 基本型	SJKM1E(Z) 智能型	SJKM1E(B) 编程型	SJKM1E(X) 消防型	SJKM1E(L) 液晶型
过载长延时整定	●	●	●	●	●
短路短延时整定	●	●	●	●	●
短路瞬时整定	●	●	●	●	●
过载、预报警指示	●	●	●	●	●
脱扣测试功能	●	●	●	●	●
故障自诊断功能	●	●	●	●	●
编码开关整定	●	●	●	●	—
双路无源信号输出	—	●	●	●	●
通讯功能模块	—	●	●	●	●
手持式编程器	—	●	●	●	●
编码整定	—	●	●	●	●
分励功能	—	●	●	●	●
温度监控保护功能	—	●	●	●	●
记忆功能	—	●	●	●	●
智能控制模块	—	●	●	●	●
消防功能	—	—	—	●	—
液晶显示	—	—	—	—	●

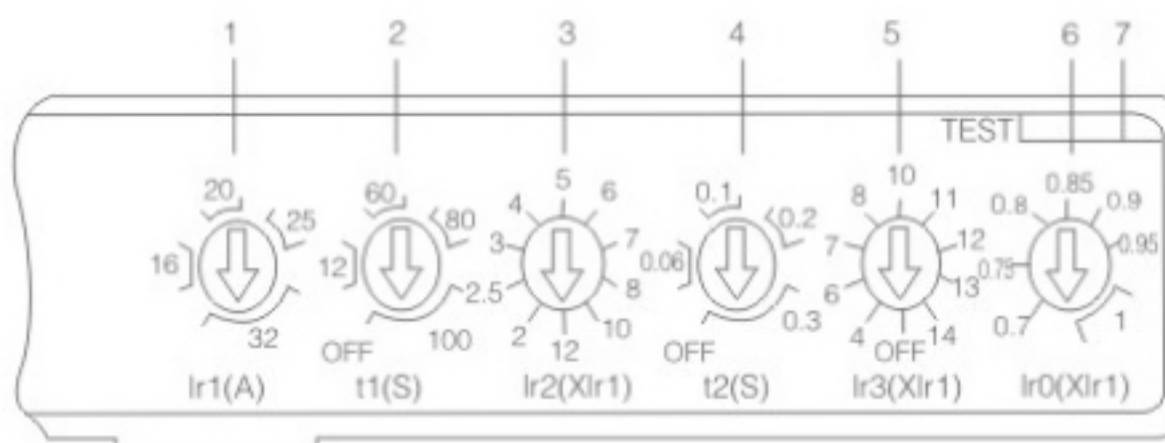
●基本功能 ●可选功能

结构与标识简介

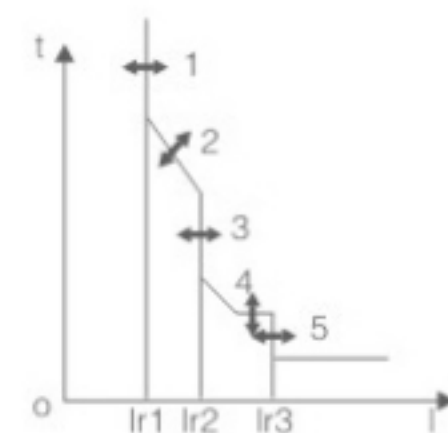
◆断路器正面指示



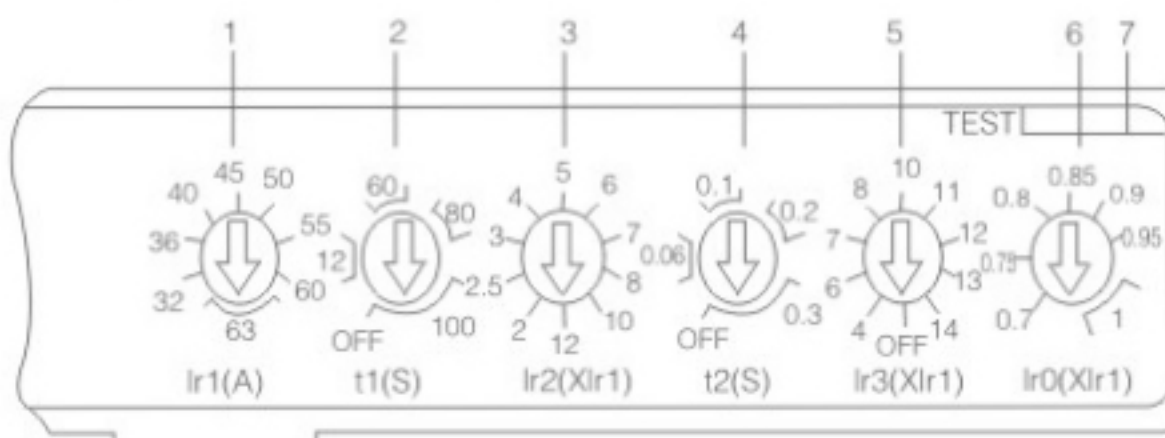
SJKM1E-125, In=32A电子式脱扣器



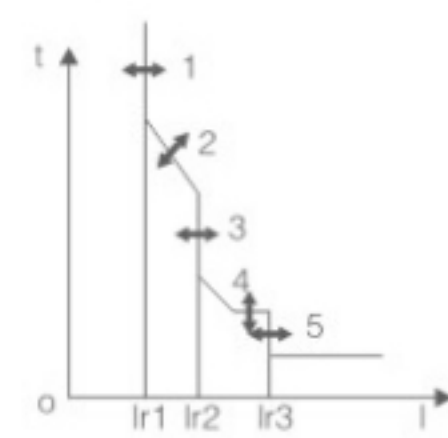
电子式脱扣器保护特性曲线



SJKM1E-125, In=63A电子式脱扣器

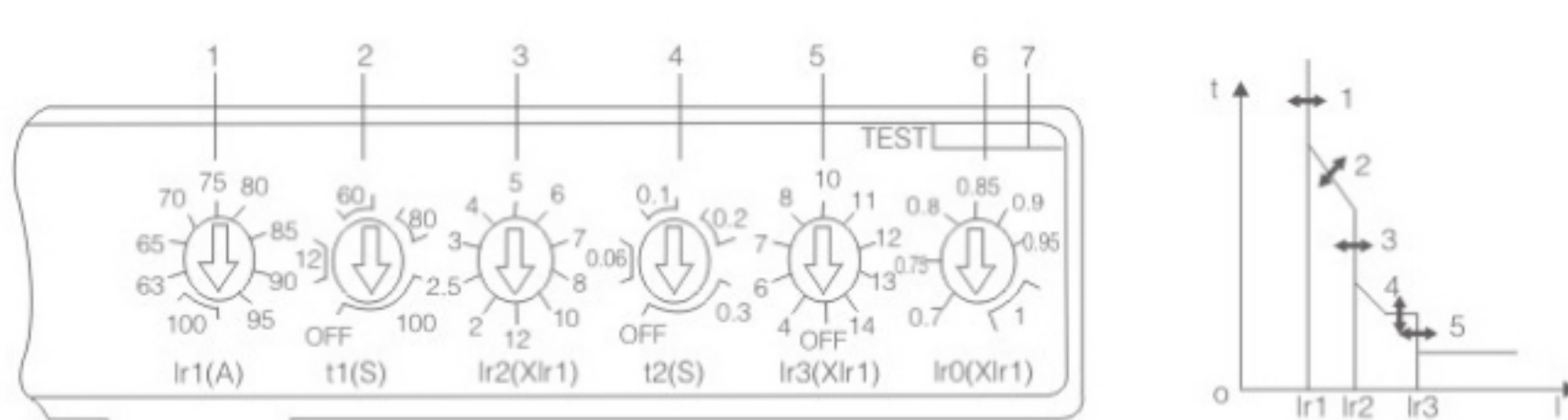


电子式脱扣器保护特性曲线



SJKM1E-125, In=125A电子式脱扣器

电子式脱扣器保护特性曲线

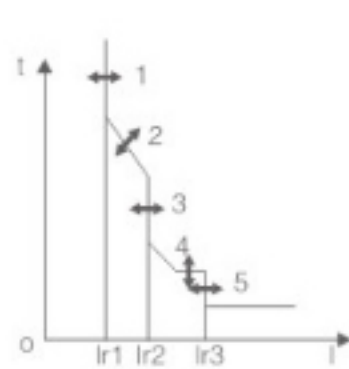
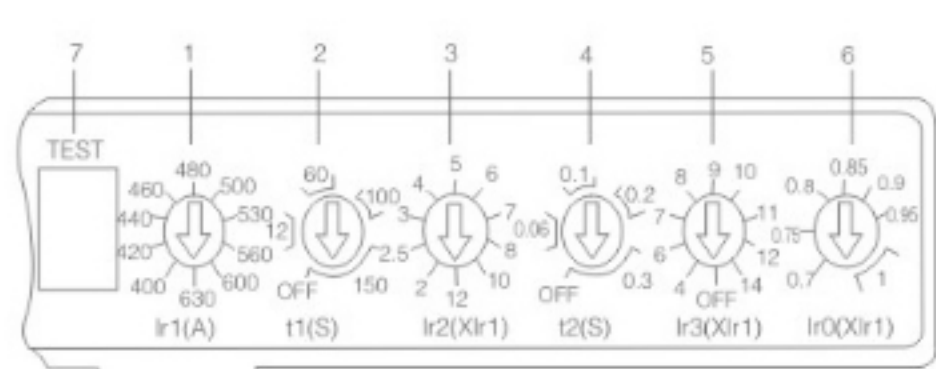
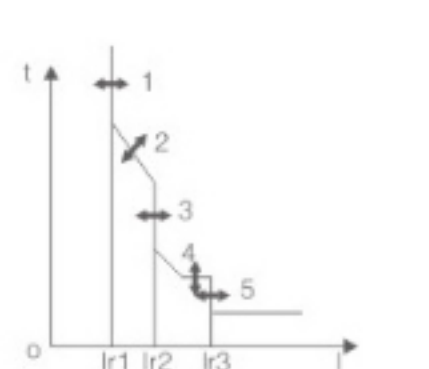
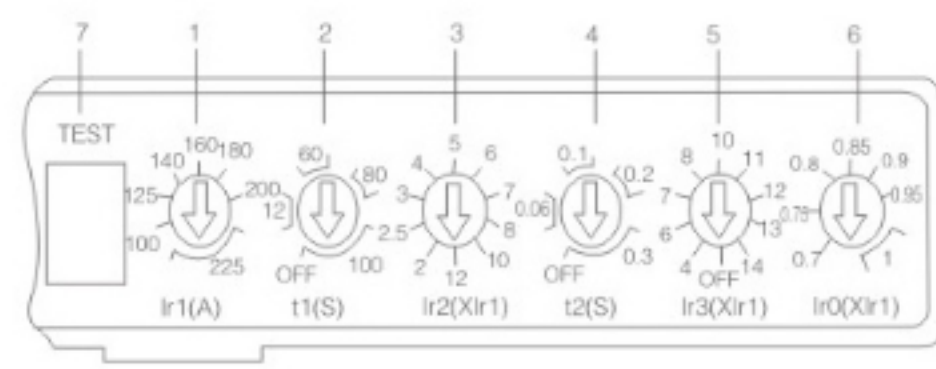


SJKM1E-250, In=250A 电子式脱扣器

电子式脱扣器保护特性曲线

SJKM1E-630, In=630A 电子式脱扣器

电子式脱扣器保护特性曲线

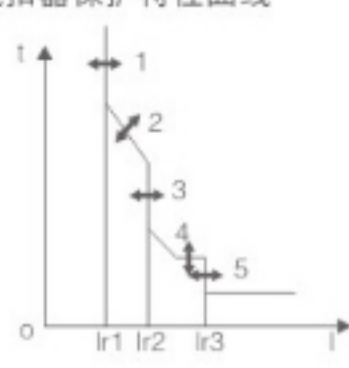
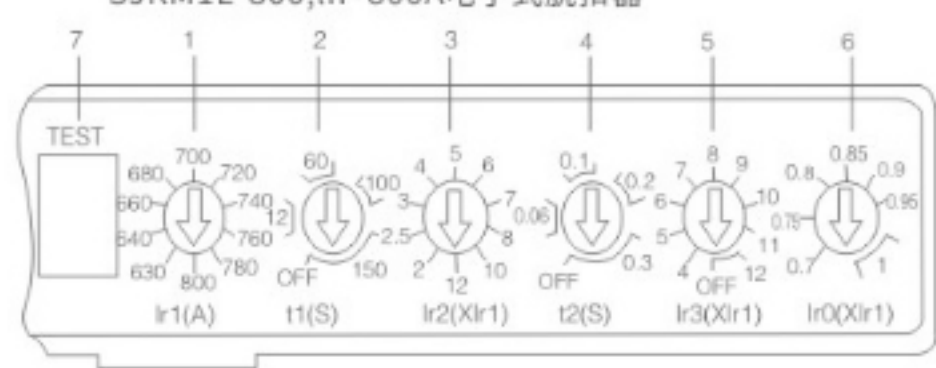
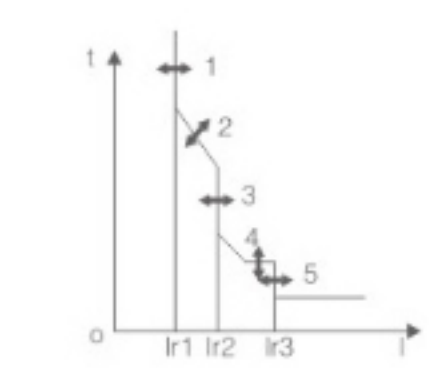
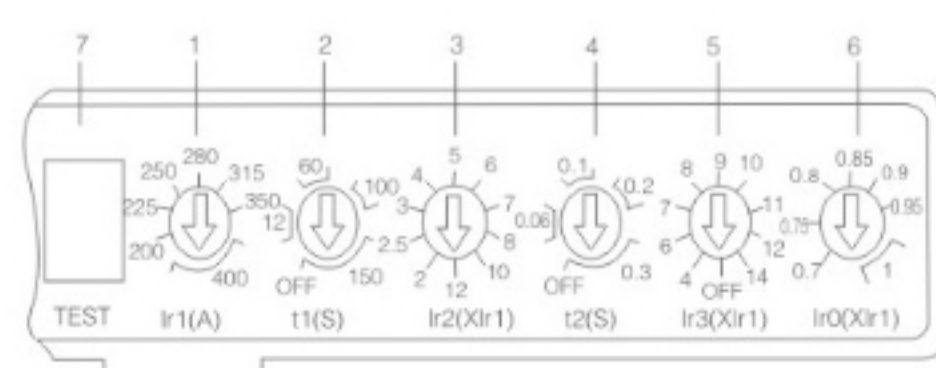


SJKM1E-400, In=400A 电子式脱扣器

电子式脱扣器保护特性曲线

SJKM1E-800, In=800A 电子式脱扣器

电子式脱扣器保护特性曲线



Note:
 ♦ Overload long delay action current Ir1 adjustment, adjustable from 4th to 10th gear according to different rated currents of the circuit breaker
 Adjust the long delay action time t1, which can be adjusted to level 4
 The short-circuit delay action current Ir2 can be adjusted in 10 levels
 ♦ Short delay action time t2 adjustment, can be adjusted in 4 levels
 Short circuit instantaneous action current Ir3 adjustment, can be adjusted in 8, 9 or 10 levels
 The pre alarm action current Ir0 can be adjusted in 7 levels
 Test end, used for trip testing (experiment)

主要技术参数

型号	SJKM1E-125				SJKM1E-250				
壳架等级额定电流Inm(A)	125				250				
额定电流(可调)In(A)	16~32A 可调	32~63A 可调	63~125A 可调		100~250A可调				
额定工作电压Ue(V)	AC400V								
额定绝缘电压Ui(V)	AC800V								
额定冲击耐受电压 Uipm	AC8000V								
极数	3		4		3		4		
额定极限短路分断能力级别	M	H	M	H	M	H	M	H	
额定极限短路分断能力Icu(kA)	50	85	50	85	50	85	50	85	
额定运行短路分断能力Ics(kA)	35	50	35	50	35	50	35	50	
额定短时耐受电流Icw(kA)1s									
使用类别	A				A				
操作性能(次)	通电	3000				3000			
	不通电	7000				7000			
外形尺寸	L	150				165			
	W	92		122		107		142	
	H	92				90			
飞弧距离(mm)	≤50				≤50				

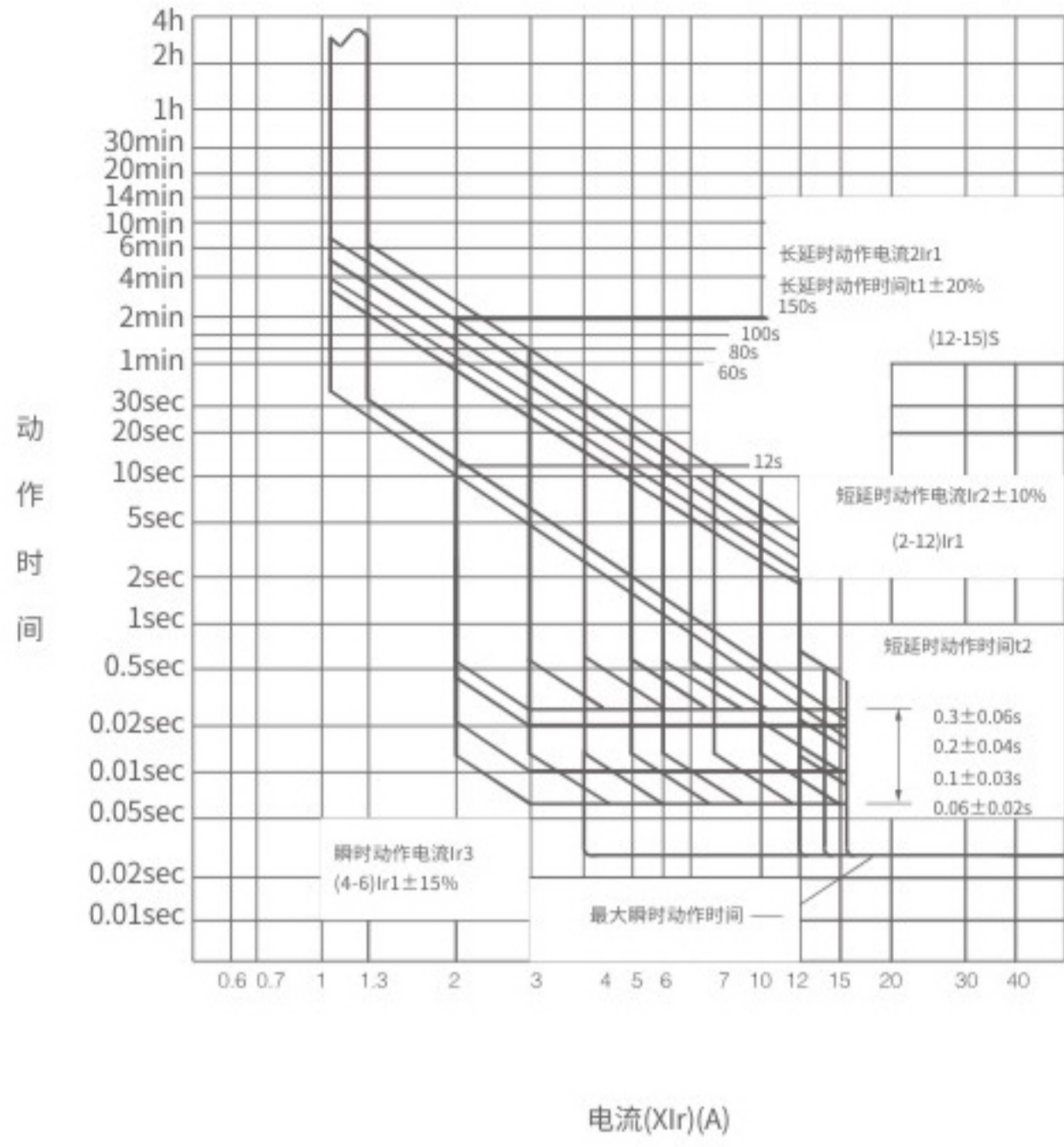
SJKM1E-400	SJKM1E-630	SJKM1E-800
400	630	800
200~400A可调	400~630A可调	630~800A可调

AC400V
 AC800V
 AC8000V

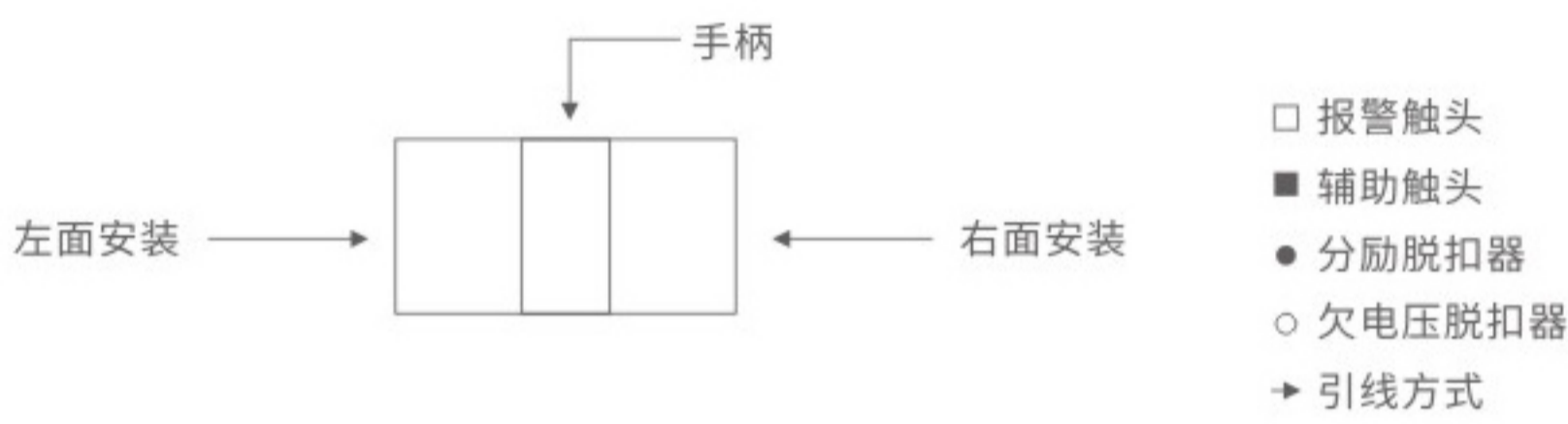
3		4		3		4		3		4	
M	H	M	H	M	H	M	H	M	H	M	H
75	85	75	85	80	100	80	100	80	100	80	100
55	65	55	65	60	70	60	70	60	70	60	70
5				8				10			
B				B				B			
2000				1500				1500			
4000				3000				3000			
257				280				280			
150		210		280		210		280			
16.5				115.5				115.5			
≤100				≤100				≤100			

Electronic release characteristics

It has protection functions such as overload long delay inverse time limit, short circuit delay inverse time limit, short circuit short delay timed limit, and short circuit instantaneous action, which can be set by the user to form the required protection characteristics; Neutral wire overcurrent protection current, time parameter 100% automatic tracking phase line setting value. The characteristics of the release device are shown in the following figure



Release mechanism and internal accessory code



脱扣器方式及内部附件代号	型号	SJKM1E-400		SJKM1E-630 SJKM1E-800
	极数及N极形式 附件名称	3极、4极	3极	4极
308 报警触头	□	□	□	□
310 分励脱扣器	●	●	●	●
320 辅助触头	■	■	■	■
330 欠电压脱扣器	○	○	○	○
340 分励脱扣器、辅助触头	—	—	■ ●	■ ●
350 分励脱扣器、欠电压脱扣器	—	—	—	○ ●
360 二组辅助触头	—	—	■ ■	■ ■
370 辅助触头、欠电压脱扣器	—	—	○ ■	○ ■
315 分励脱扣器、报警触头	—	—	—	□ ●
328 辅助触头、报警触头	□ ■	□ ■	□ ■	□ ■
338 欠电压脱扣器、报警触头	—	—	—	○ □
348 分励脱扣器、辅助触头、报警触头	—	—	—	□ ● ■
368 二组辅助触头、报警触头	—	—	■ ■ □	■ ■ □
378 辅助触头、欠电压脱扣器、报警触头	—	—	—	○ □ ■

Note:

The first digit 3 of the release method and internal accessory code indicates an electronic release with three-stage protection; The last two digits represent the internal attachment code, and if there are no attachments, they are represented by 00

The SJKM1E-400 has a 328 specification, while the SJKM1E-600 and 800 have a 348 specification. The auxiliary contacts are a pair of contacts (i.e. one normally open and one normally closed) The 368 specification auxiliary contacts in SJKM1E-400, 630, and 800 have three pairs of contacts (i.e., three normally open and three normally closed); The number of auxiliary contacts for other specifications is two groups of 400 or more and one group of 225 or less

SJKM1E-125 and 250 can provide two pairs of auxiliary contacts (i.e. two normally open and two normally closed) for the 320 specification, but this must be specified when ordering

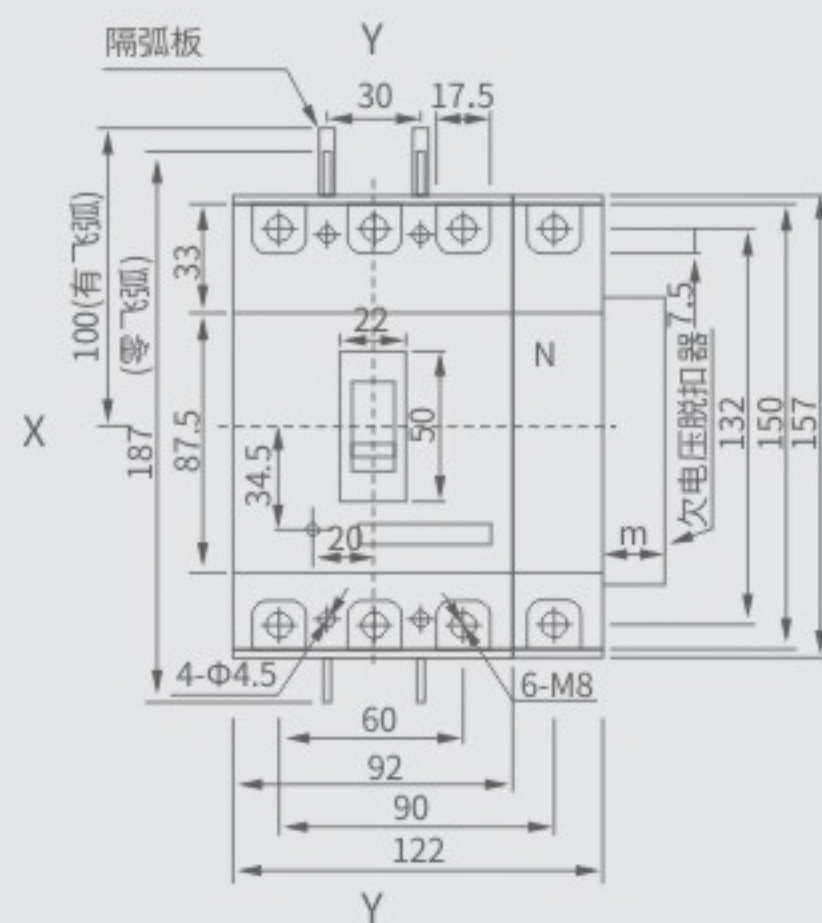
When internal accessories cannot be provided or meet the customer's usage needs, more auxiliary functions can also be provided through the intelligent controller. This series of intelligent controllers can provide the following functions: closing and opening auxiliary signals

◆ The installation size is the same as SJKM6

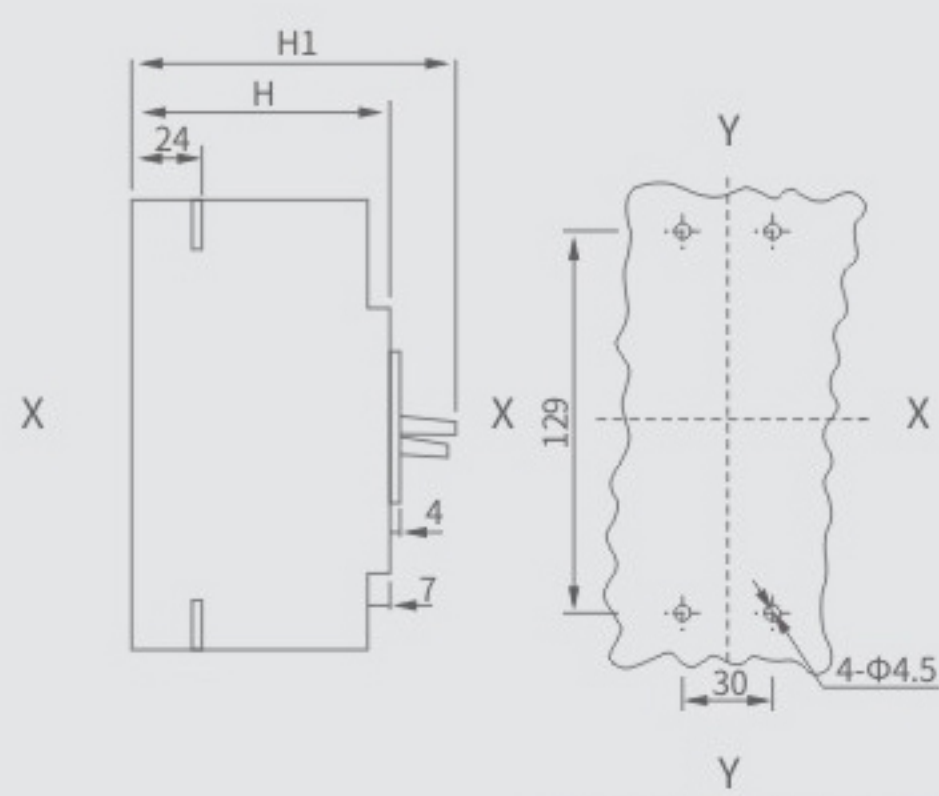
Dimensions

◆ SJKM1E-125(L、M、H)板前接线 (二极、三极、四极)

X-X、Y-Y为三极断路器中心



欠电压脱扣器厚度: 对A型、B型m=12
C型m=21

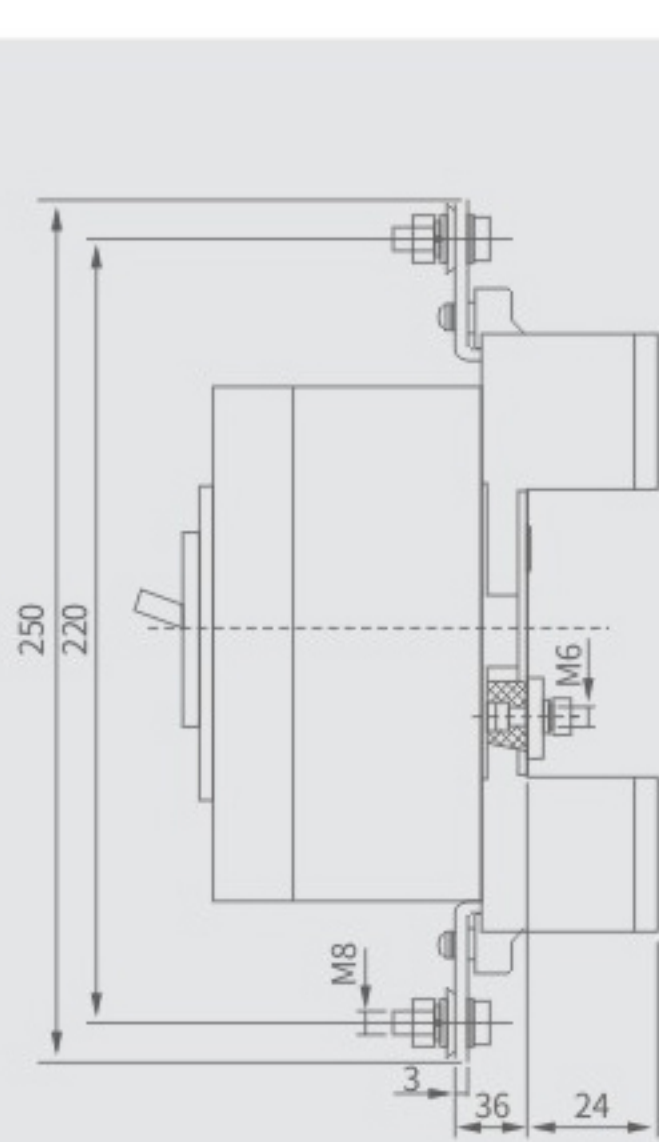


板前接线安装板开孔尺寸

型号	H	H1
SJKM1E-125L	68	86
SJKM1E-12M	86	104
SJKM1E-125四极	86	104

◆ SJKM1E-125(L、M、H)插入式板前接线(三极)

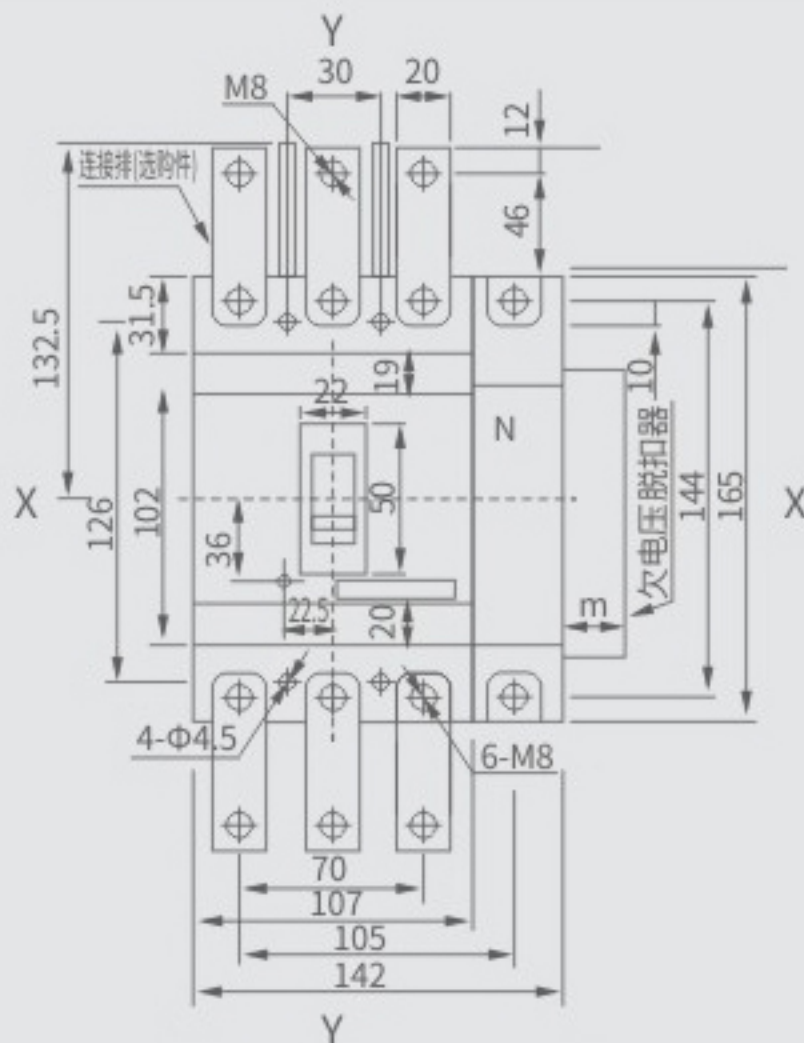
X-X、Y-Y为三极断路器中心



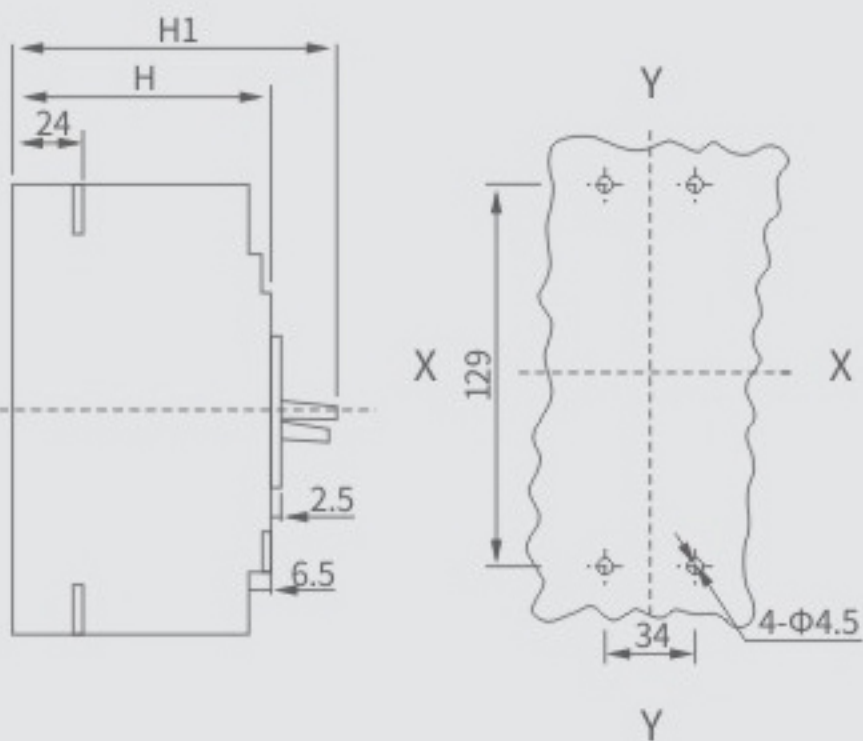
插入式板后接线安装板开孔尺寸

◆ SJKM1E-250(L、M、H)板前接线(三极、四极)

X-X、Y-Y为三极断路器中心



欠电压脱扣器厚度: 对A型、B型m=12
C型m=21

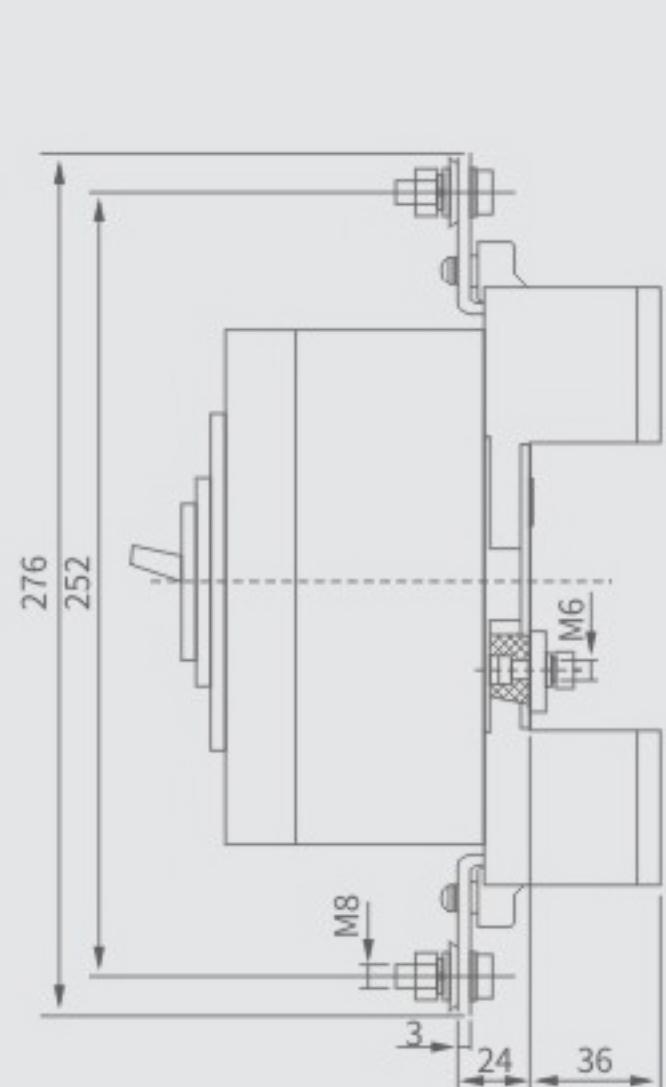


板前接线安装板开孔尺寸

型号	H	H1
SJKM1E-250L	86	110
SJKM1E-250(M、H)	105	127

◆ SJKM1E-250(L、M、H)插入式板前接线(三极)

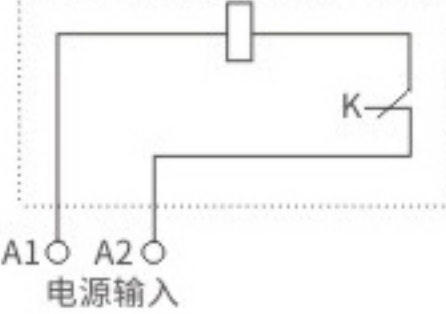
X-X、Y-Y为三极断路器中心



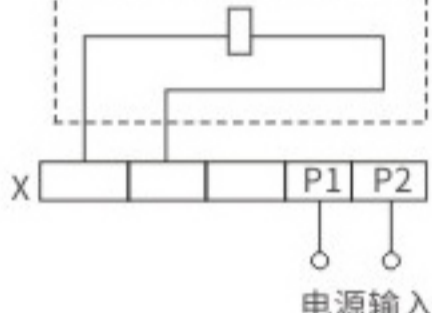
插入式板后接线安装板开孔尺寸

电气附件


◇分励脱扣器

额定控制电流电压Us V	AC230 AC400 DC24 DC110 DC220
动作电压V	(0.7~1.1)Us
接线图	 <p>注：K-分励脱扣器内部与线圈串联的微动开关为常闭触头，当断路器分闸后，该触头自行断开，合闸时闭合。</p>

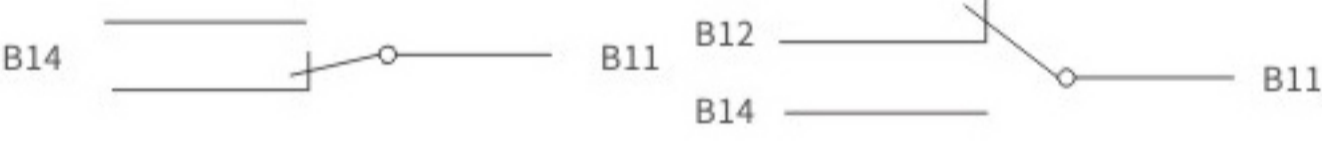
◇欠电压脱扣器

额定工作电压Us V	AC230~AC400
动作电压V	额定工作电压的35%~70%时可靠脱扣；85%~110%时保证合闸；低于35%时，应防止合闸。
接线图	 <p>说明：X-接线端子排 注：虚框内为断路器内部附件接线图。</p>

◇辅助触头

约定发热电流Ith	3A
额定工作电流Ie	In≤225时为0.26A In≥400时为0.30A
接线图	 <p>断路器在“分”位置时的状态 断路器在“合”位置时的状态</p>

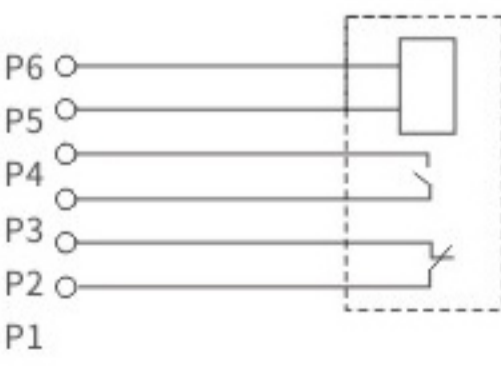
◇报警触头

约定发热电流Ith	3A
额定工作电流Ie	In≤25时为0.26A In≥400时为0.30A
接线图	 <p>断路器在自由脱扣(报警)时的状态 断路器在“分”“合”位置时的状态</p>

◇辅助触头、报警触头

壳架等级最大的额定电流A	≤225	≥225
约定发热电流Ith A	3	3
额定工作电流Ie A	0.26	0.30

◇漏电报警模块

输入电压	AC: 230, 400V
接线图	 <p>说明： P5-P6输入电源 P1-P2 P3-P4触头容量 Ac230 5A。</p> <p>注：虚框内为漏电报警模块内部附件接线图</p>

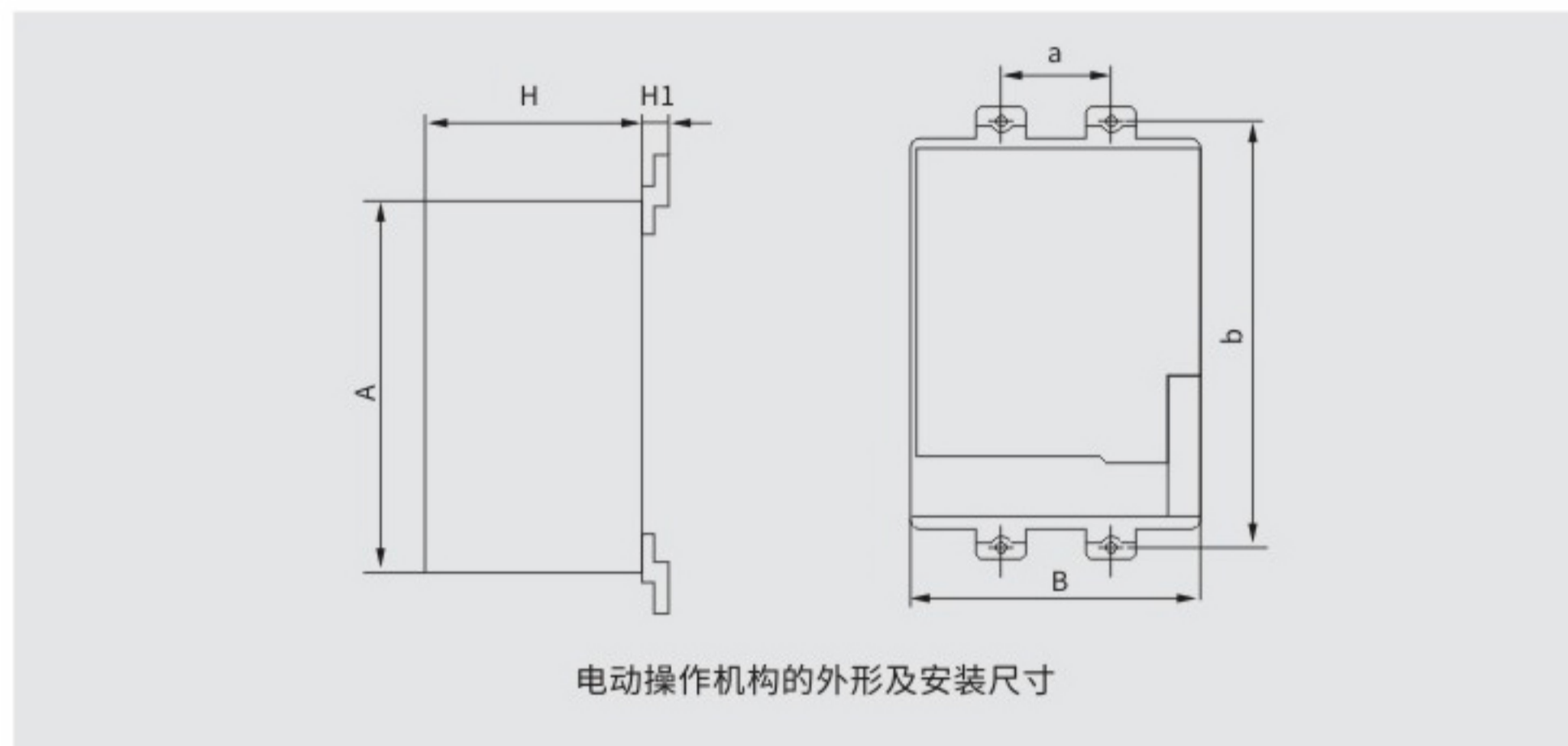
注：漏电报警模块有二种工作方式，用户根据需要可在订货时说明；

- I：当发生漏电时，漏电报警模块发出信号，同时断路器脱扣，
 - II：当发生漏电时，漏电报警模块发出信号，但断路器不脱扣。
- (II是为满足特殊场和需要，用户在采用此功能保护电器时请慎重考虑)

◇ 电动操作模块

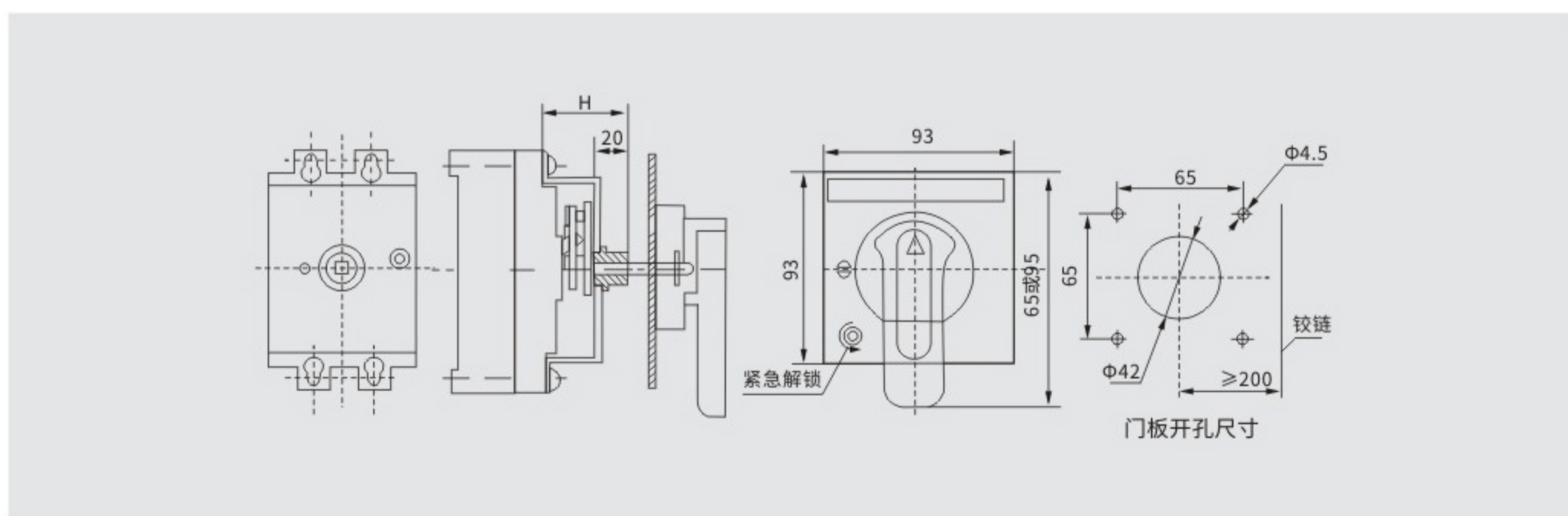
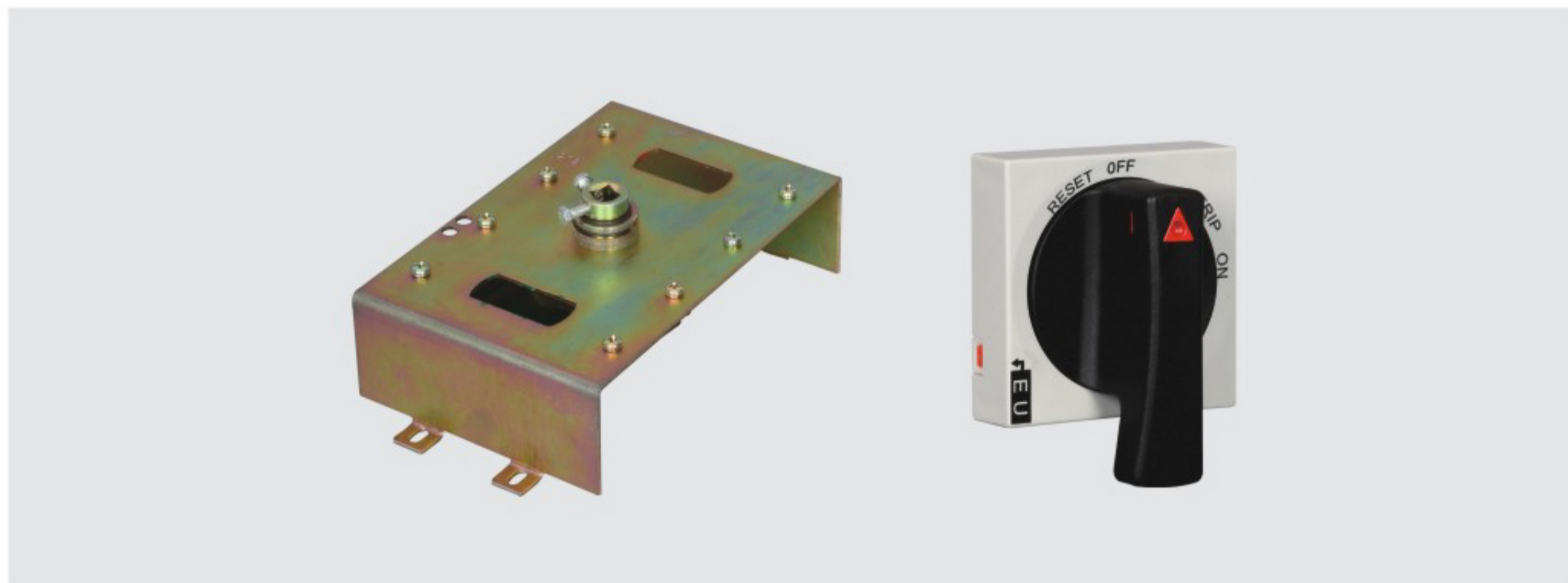


输入电压	AC: 230V, 400V DC: 110V, 230V
接线图	<p>说明： P1、P2为外接电源输入；SB1、SB2操作按钮(用户自备)。</p> <p>注：虚框内为电动机操作机构内部附件接线图。</p>



型号	A	B	H	a	H1	b
SJKM1E-125	116	90	77	30	12.5	129
SJKM1E-250	116	90	77	35	15	126
SJKM1E-400	176	130	115	44	27	215
SJKM1E-630、800	176	130	115	70	31	243

◇ 转动手柄操作模块



◇ 转动手柄安装尺寸

型号	SJKM1E-125	SJKM1E-250	SJKM1E-400	SJKM1E-630/800
安装尺寸H	61	57	87	87

Installation and transportation conditions

Installation conditions: Generally, it should be installed vertically or horizontally (horizontally); Installation category: Circuit breaker main circuit class III, control circuit and auxiliary circuit class II; Pollution level: Level 3. ◇ External magnetic field: The external magnetic field near the installation site shall not exceed 5 times the geomagnetic field in any direction.