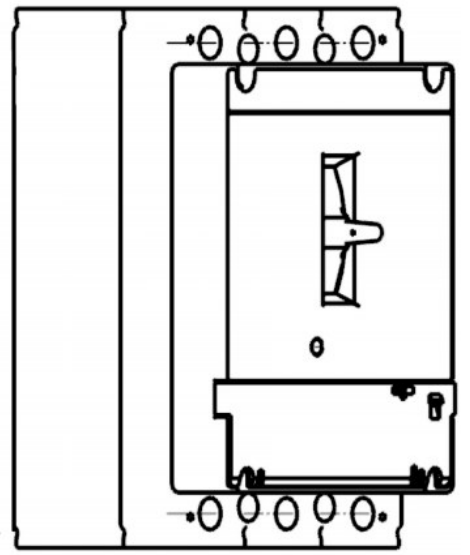
KFM5 系列
塑料外壳式断路器
KFM5 series
Molded case circuit breaker
使 用 说 明 书
User´s Manual

用途



KFM5塑料外壳式断路器(以下简称断路器)适用于额定电流至630A、额定绝缘电压1500V、交流50Hz或60Hz、额定工作电压690V及以下的配电网络中,用来分配电能且作为电路及电源设备的过载、短路和欠电压保护,或用来作为鼠笼式感应电动机的起动、运转中分断,以及电动机的过载、短路、欠电压保护等,在正常情况下,断路器可分别作为线路的不频繁转换及鼠笼式感应电动机的不频繁起动之用。

Usage

KFM5 molded case circuit breaker (hereinafter referred to as breaker) is suitable for the power distribution network whose rated current below 630A, rated insulation voltage below 1500V, AC 50Hz or 60Hz and rated working voltage below 690V,used to distribute power and as the circuit and power equipment overload, short circuit and under voltage protection, or used as a squirrel-cage induction motor starting, breaking during the operation, as well as motor overload, short circuit, undervoltage protection. Under normal circumstances, circuit breaker can be used as an infrequent line conversion or a squirrel-cage induction motor infrequent start.

使用环境

1.周围空气温度的上限值不超过+40℃,下限值不低于−5℃,24h的平均值不超过+35℃。

2.安装地点的海拔高度不超过2000m。

3.最高温度为+40℃时,空气的相对湿度不超过50%,在较低的温度下,可以允许有较高的相对湿度,例如20℃时达90%。对由于温度变化偶尔产生的凝露应采取特殊的措施。

4.污染等级为3级。

5.安装类别为Ⅲ。

Operating environment

1. The ambient air temperature does not exceed + 40℃, lower limit of it does not less than −5℃, 24h average temperature does not exceed + 35℃;

2.The installation site altitude is less than 2000m;

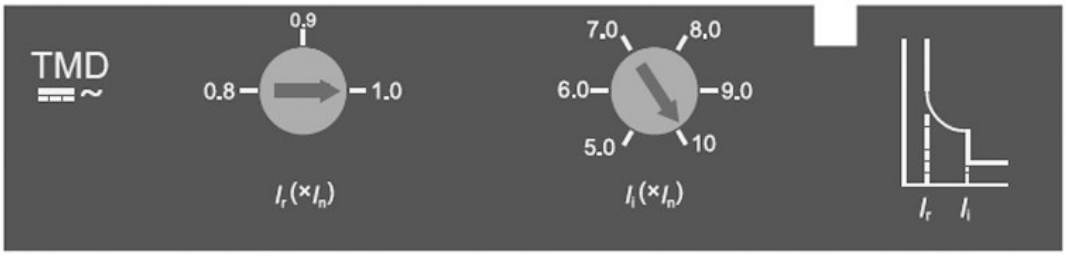
3.The maximum temperature is + 40℃, the relative humidity of the air does not exceed 50%; At lower temperatures, it allows a higher relative humidity, for example, up to 90% humidity at 20℃;

4.Pollution level is Level 3;

5.Installation category is degree Ⅲ.

主要参数 Main parameter

壳架等级 Frame	分断能力级别 Breaking capacity levels	Icu/Ics		
		AC400V	AC690V	DC250V
KFM5-125	C	65/65	10/10	20/20
	S	80/80	15/15	25/25
	M	100/100	20/20	30/30
	H	150/150	35/25	35/35
KFM5-160	C	65/65	10/10	20/20
	S	80/80	15/15	25/25
	M	100/100	20/20	30/30
	H	150/150	35/25	35/35
	U	–	40/40	–
KFM5-250	C	65/65	10/10	25/25
	S	80/80	15/15	35/35
	M	100/100	20/20	40/40
	H	150/150	35/35	45/45
	V	200/200	55/55	–
	R	–	80/80	–
KFM5-400	C	65/65	10/10	25/25
	S	85/85	20/20	35/35
	M	120/120	35/35	45/45
	H	150/150	40/40	50/50
	V	200/200	55/55	–
	R	–	80/80	–
	HB	–	100/100	–
KFM5-630	C	65/65	10/10	25/25
	S	85/85	20/20	35/35
	M	120/120	35/35	45/45
	H	150/150	40/40	50/50
	V	200/200	55/55	–
	R	–	80/80	–
	HB	–	100/100	–



整定电流可调Setting current is adjustable
热整定0.8、0.9、1.0In Heat setting 0.8、0.9、1.0ln
磁整定5-10In(配电保护)9-14In可调(电动机)
MagneticTuning 5-10ln(Distribution Protection)
9-14ln be adjustable(Electric motor)

	可调式*Adjustable	固定式 Fixed
配电 Power Distribution	TMD	TMDF
电机 Motor	TMM	TMMF
电机单磁 Motor single-magnetic	TMM1 In≥50A	TMM1F
配电单磁 Distribution single-magnetic	TMD1 In≥50A	TMD1F

壳架等级 Frame	脱扣器类型 Release type	额定电流值 Rate current																				
		1.5	2.5	6	10	16	20	25	32	40	50	63	72	80	100	125	140	160	180	200	225	250
KFM5-125	TMD/TMM					▲	▲	▲	▲	▲	■	■	■	■	■	■						
	TMD1/TMM1										■	■	■	■	■	■						
	TMDF/TMMF					■	■	■	■	■	■	■	■	■	■	■						
	TMD1F/TMM1F	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
KFM5-160	TMD/TMM					▲	▲	▲	▲	▲	■	■	■	■	■	■	■	■				
	TMD1/TMM1										■	■	■	■	■	■	■	■				
	TMDF/TMMF					■	■	■	■	■	■	■	■	■	■	■	■	■				
	TMD1F/TMM1F	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
KFM5-250	TMD/TMM														■	■	■	■	■	■	■	■
	TMD1/TMM1														■	■	■	■	■	■	■	■
	TMDF/TMMF					□	□	□	□	□	□	□		□	■	■	■	■	■	■	■	■
	TMD1F/TMM1F				□	□	□	□	□	□	□	□		□	■	■	■	■	■	■	■	■

注:▲为热可调磁不可调 □为KFM5-250V、KFM5-250R型可扩选电流值
Note: ▲ Thermally adjustable magnetically non-adjustable □ represents the expandable current values of KFM5-250V and KFM5-250R models

壳架等级 Frame	脱扣器类型 Release type	额定电流值 Rate current									
		200	225	250	300	315	320	350	400	500	630
KFM5-400	TMD/TMM		■	■	■	■	■	■	■		
	TMD1/TMM1		■	■	■	■	■	■	■		
	TMDF/TMMF	■	■	■	■	■	■	■	■		
	TMD1F/TMM1F	■	■	■	■	■	■	■	■		
KFM5-630	TMD/TMM			■	■	■	■	■	■	■	■
	TMD1/TMM1			■	■	■	■	■	■	■	■
	TMDF/TMMF			■	■	■	■	■	■	■	■
	TMD1F/TMM1F			■	■	■	■	■	■	■	■

使用与维护

1.断路器实现零飞弧,使用时应装上相间隔板。

2.断路器的工作状态在手动操作时,由手柄指示。合闸和分闸分别表示断路器接通电源和断开电源的手柄位置,自由脱扣位置是由于过载、短路、欠电压、分励脱扣器或按动脱扣按钮而引起断开时手柄的位置,装有报警触头的断路器,此时会发出报警信号。断路器处于自由脱扣时,要使断路器合闸必须先进行再扣,然后才能把手柄推向合闸位置。

3. 断路器在新安装及运行一段时间后(一般为1~2个月)须在合闸状态下按动脱扣按钮,以确认断路器操作机构动作是否可靠。

4.断路器在第一次投入使用前应空载合分几次。正常情况下应定期维护,检查连接螺钉有无松动,有否过度发热等。在承受较大过载电流后,必须进行仔细检查,将断路器合分几次。检查转动部分是否灵活。

5. 断路器以及附件在出厂时已由专用设备调整好,用户在安装时不得任意打开盖子,以免影响脱扣器动作性能,防止发生事故。装有电动操作机构的断路器在安装时不应拆除电操机构,否则会影响电操机构的动作特性。

6. 在用户遵守保管和使用要求的条件下,从制造厂发货日起18个月内,产品如因制造质量问题而发生损坏或不能正常使用时,制造厂负责无偿更换或修理。

Correct use and maintenance

1. The phase separator should be installed as the circuit breaker is used to achieve zero arcing.

2. The operating state of the circuit breaker is indicated by the handle position when the manual operation is operated. “ON” and “OFF” represents connection with power. Trip−free means the handle position when it breaks due to overload, short circuit, under−voltage, shunt trip or pressing shunt release button. At the same time, the circuit breaker equipped with alarm contacts can give an alarm. If the breaker is in the state of “trip−free”, must be reset before pushing the handle to "OFF".

3. After a new installation and running for a period of time (usually 1 to 2 months) , release button should be pressed while circuit breaker state in the closing to confirm the reliability of operation of the circuit breaker operating mechanism.

4. Unloaded closing and breaking for several times should be carried out before the first use of the circuit breaker. Under normal circumstances should be regular maintenance, check the connection screws to make sure whether loose or not, whether excessive fever. After withstand large overload current, breaker must be carefully examined, also should be closed and broke for several times. Check the rotating part to make sure whether flexible or not.

5. Circuit breaker and its accessories have been debugged at the factory. Users are not allowed to open the lid when installing so as not to affect the release performance and to prevent the occurrence of accidents. If the

circuit breaker is assembled with the motor operation mechanism, it should not be removed when the breaker is installed. Otherwise the action characteristic of mechanism will be affected.

6.On condition that users follow the custody and use requirements, delivery date from the manufacturer within 18 months ,if the product damaged or not working because of quality problems, the manufacturer is responsible for free replacement or repair.

故障诊断：

确保断路器正确安装，并且所有终端连接都按照说明进行了紧固。

若断路器不能闭合，请检查下列事项：

手柄位置 已脱扣–通过将手柄完全移动到OFF位置然后在移动到ON位置进行复位。

–欠压脱扣是否已禁用

–分励脱扣是否已启用

–系统是否过载或短路

–断路器保护设置

Troubleshooting

Make sure that the circuit breaker is installed correctly, and all terminal connections are tightened in accordance with the instructions. If the circuit breaker can not be closed, check the following item:

– Handle position has tripped. Therefore moved by the handle to the OFF position and then moved to the ON position to reset

– Undervoltage release has been deactivated

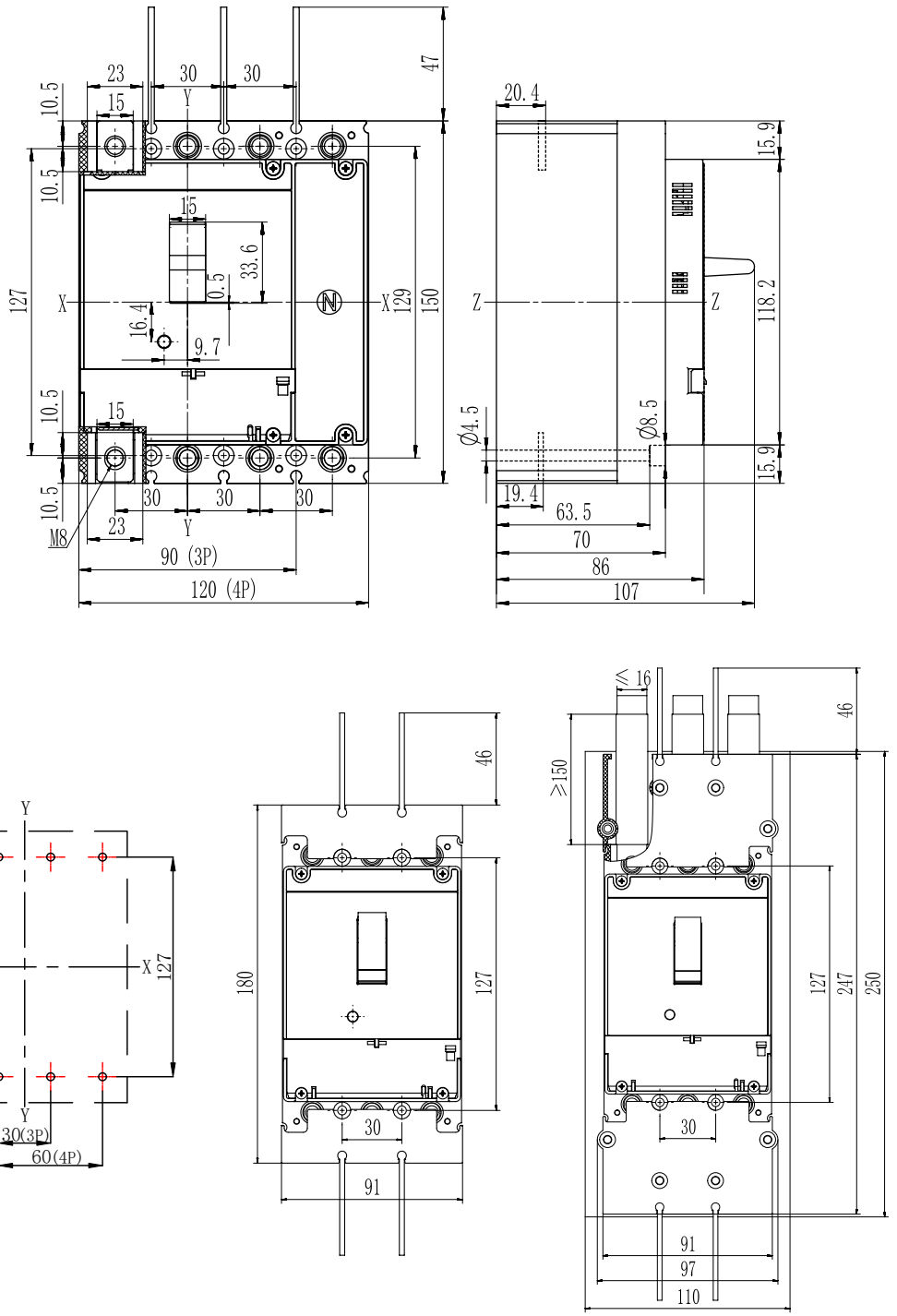
–Shunt trip is enabled

–Whether the system overload or short circuit

– Circuit breaker protection settings

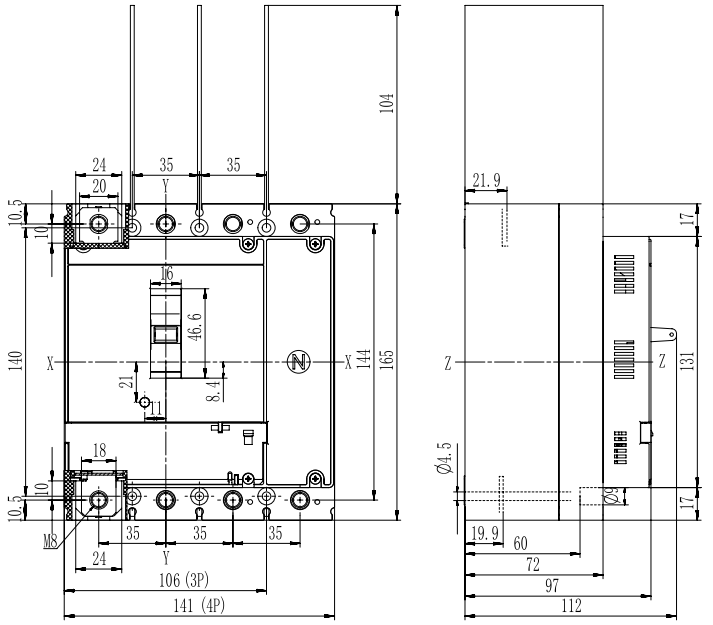
KFM5-125/160安装示意图

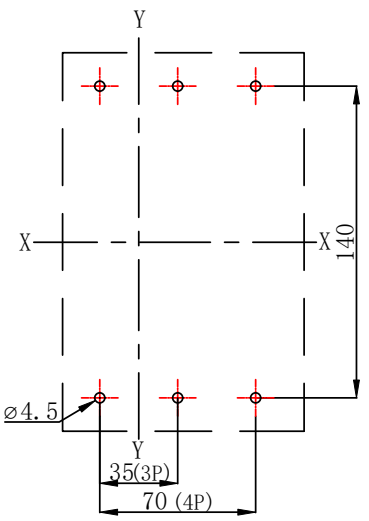
KFM5-125/160 installation diagram

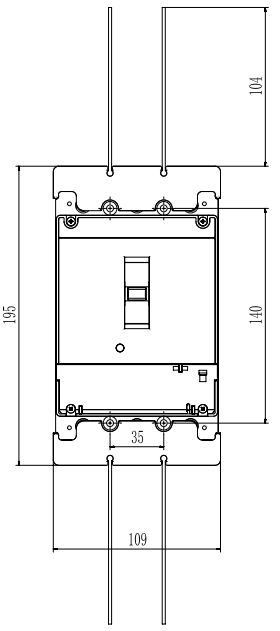


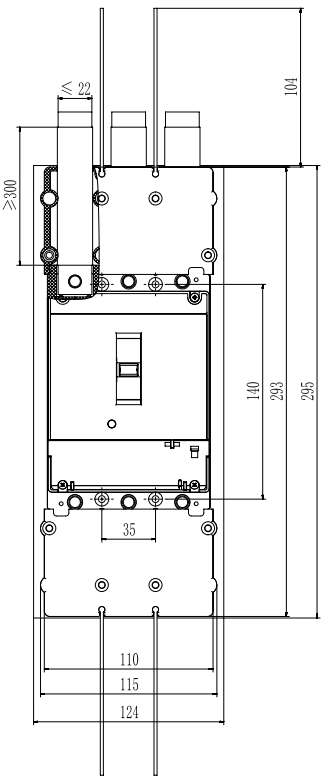
KFM5-250安装示意图

KFM5-250 installation diagram



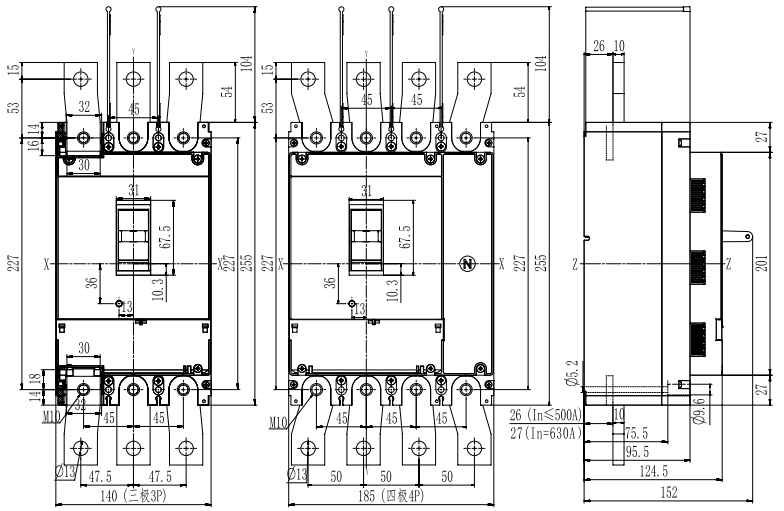


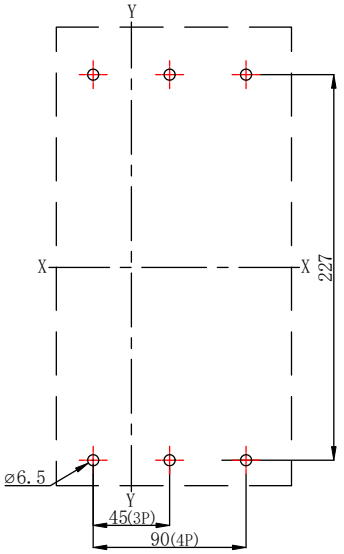


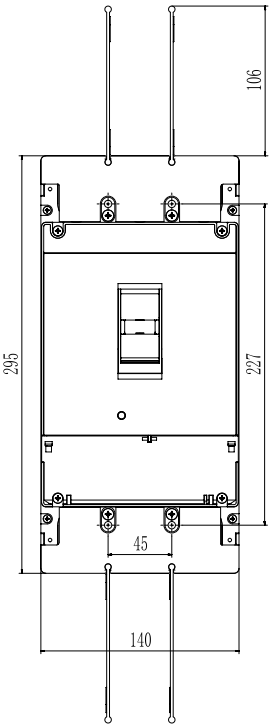


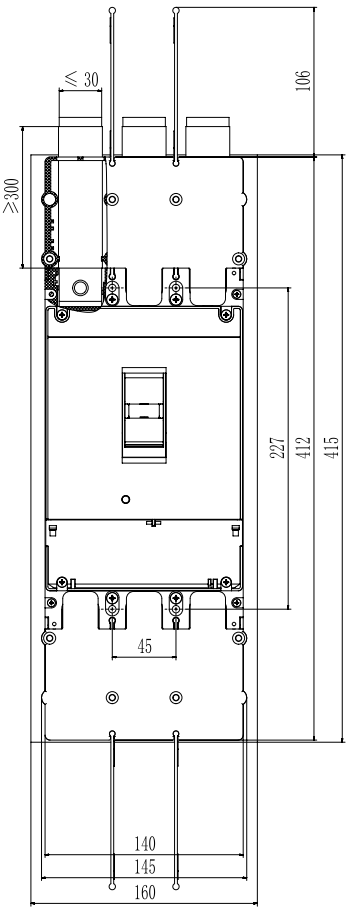
KFM5-400/630安装示意图

KFM5-400/630 installation diagram



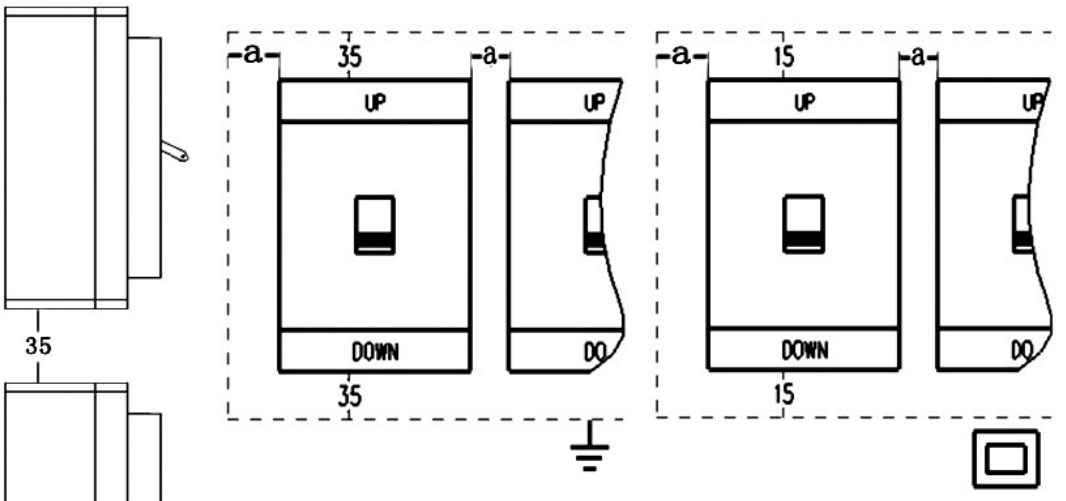






注:扩展排为选配

Note: Expansion busbar is optional



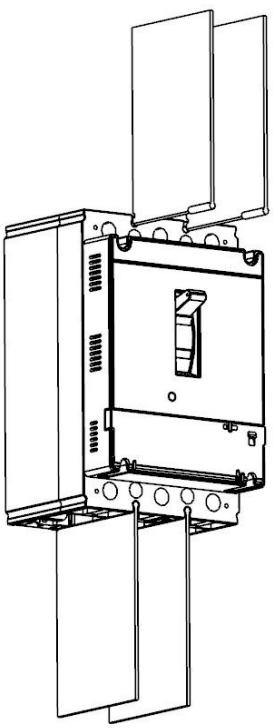
≤480V a=3

<600V a=5

690V a=15

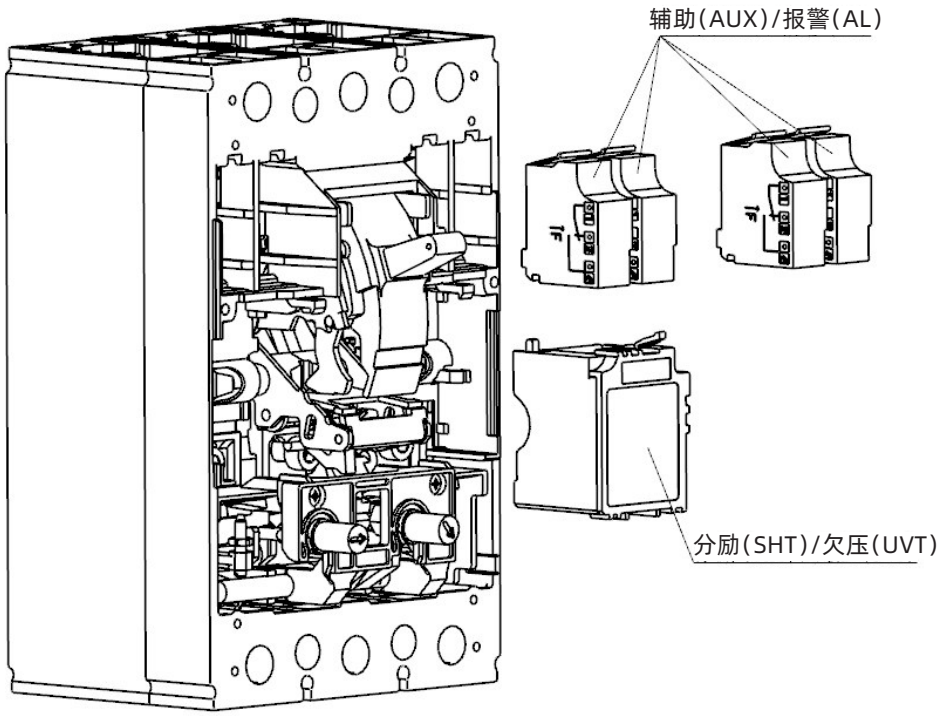
安装安全距离 mm

Install safety distance (mm)

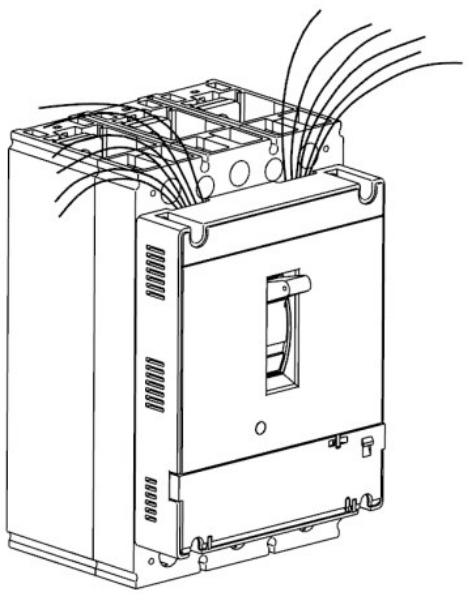


隔弧板 Partition arc board

附件 Accessory



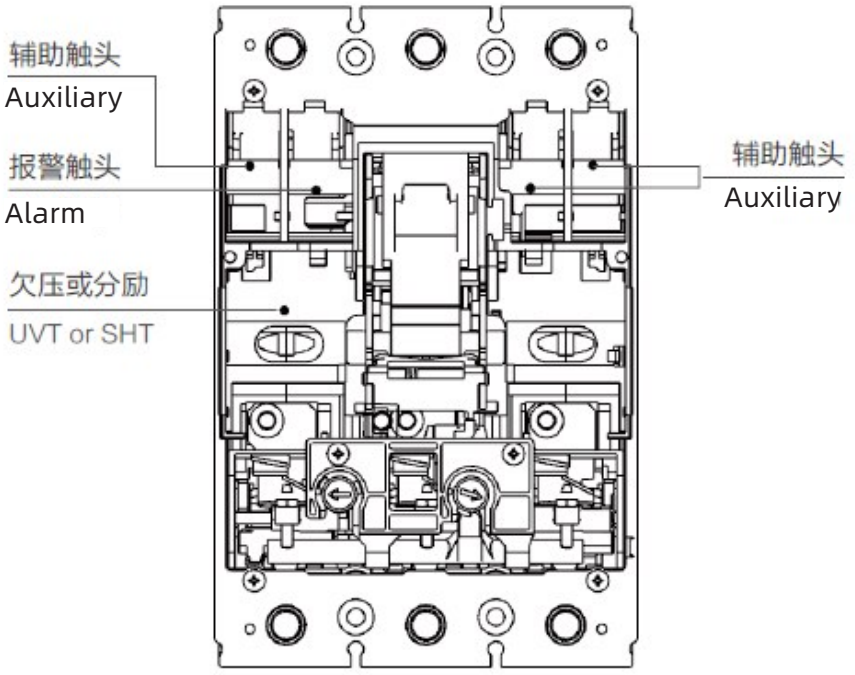
Internal accessories



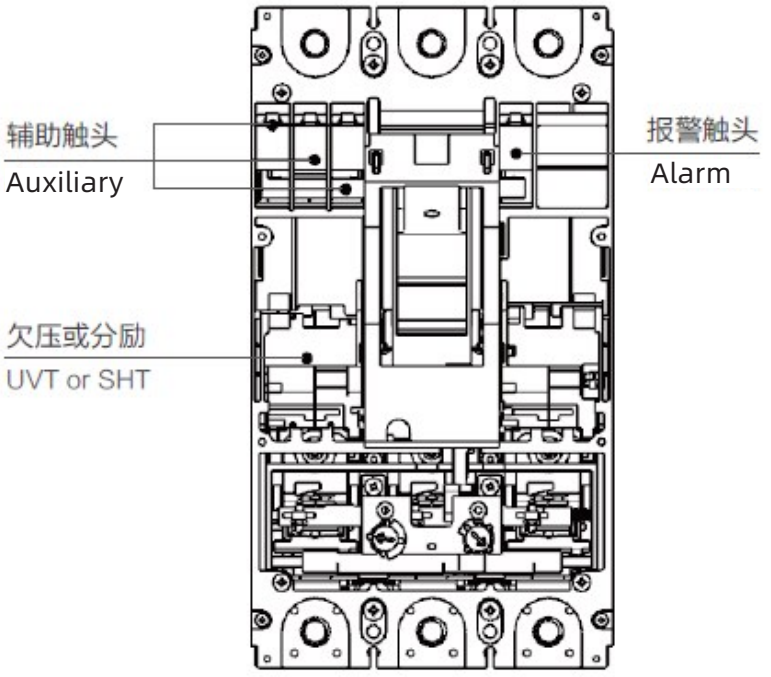
附件出线 Annex outlet

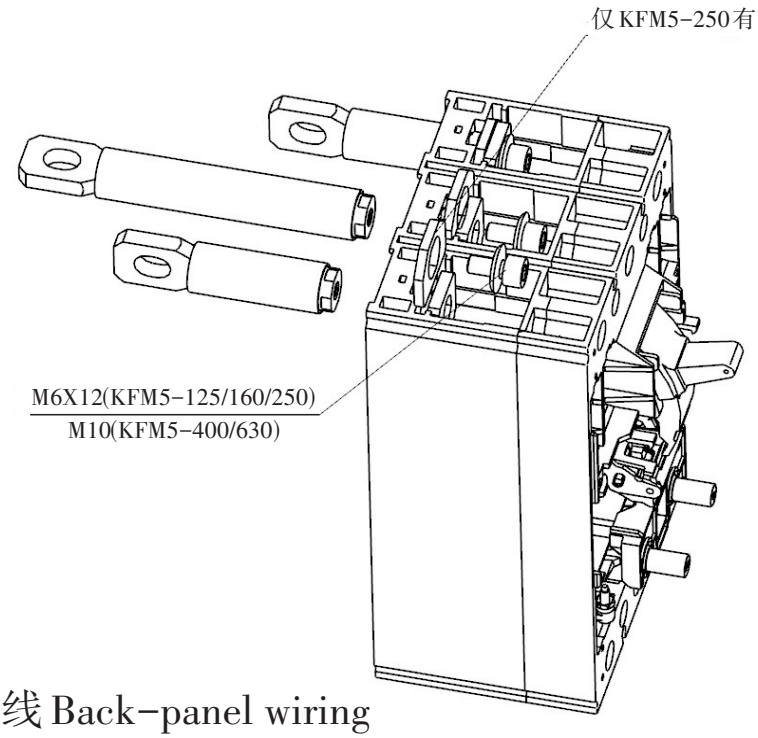
内部附件位置 Position of internal accessories

KFM5-125/160/250



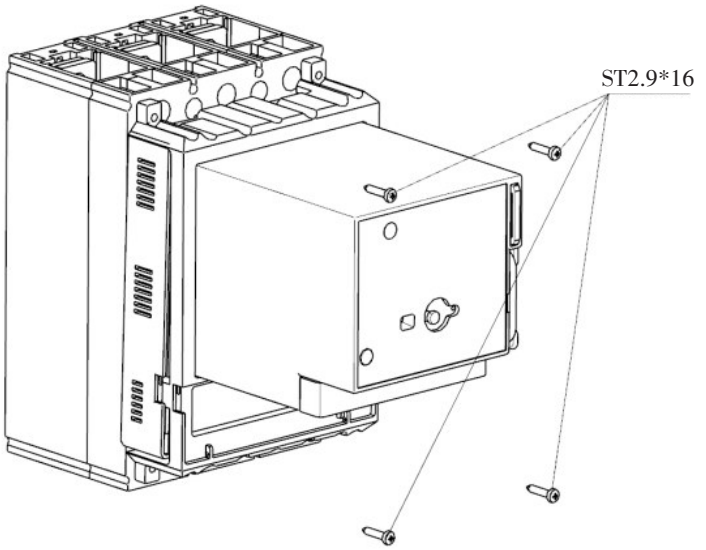
KFM5-400/630





板后接线 Back-panel wiring

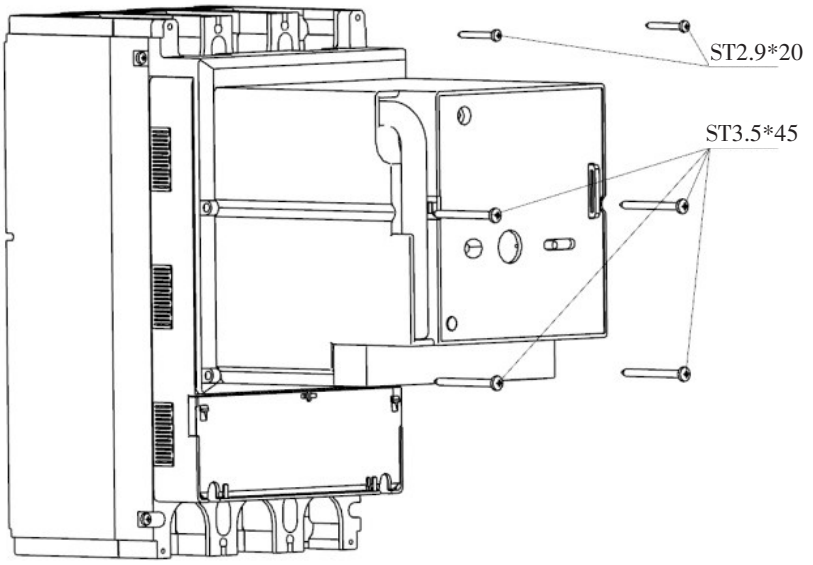
KFM5-125/160/250



电动操作机构安装

Electric operation mechanism installed

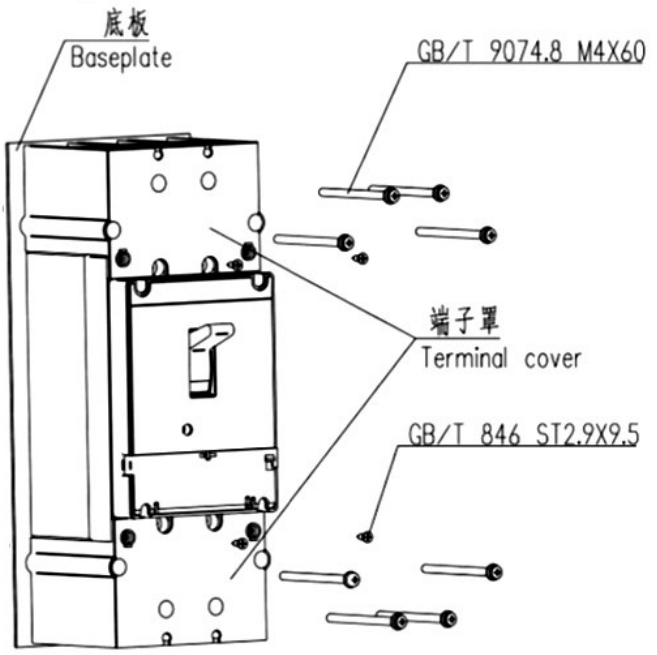
KFM5-400/630



电动操作机构安装

Electric operation mechanism installed

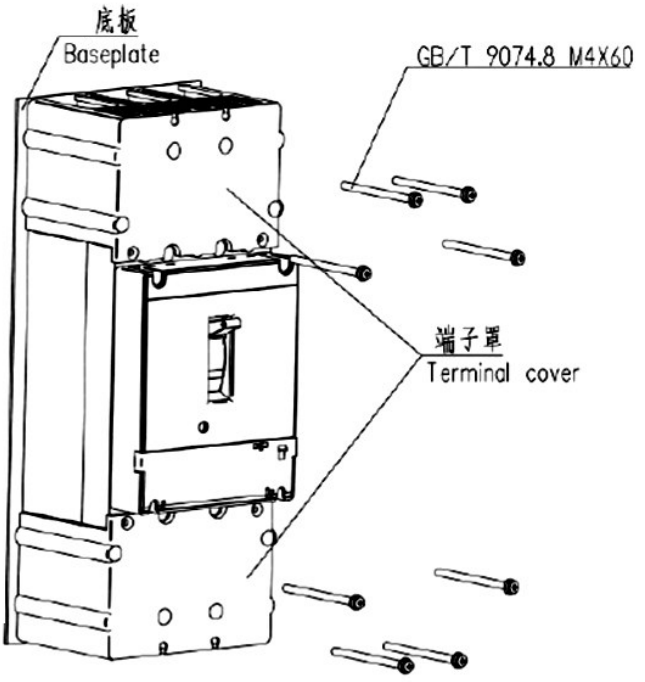
KFM5-160U



端子罩、底板安装

Install terminal cover ,baseplate

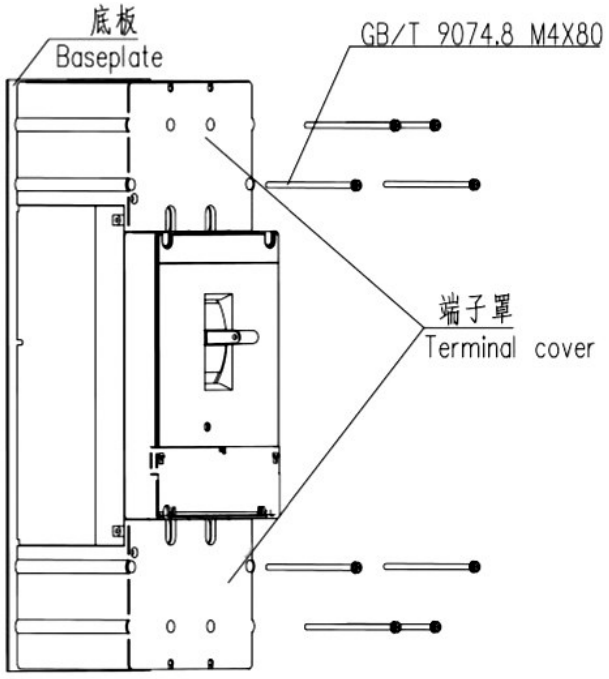
KFM5-250V/R



端子罩、底板安装

Install terminal cover ,baseplate

KFM5-400/630V/R/HB



端子罩、底板安装

Install terminal cover ,baseplate