



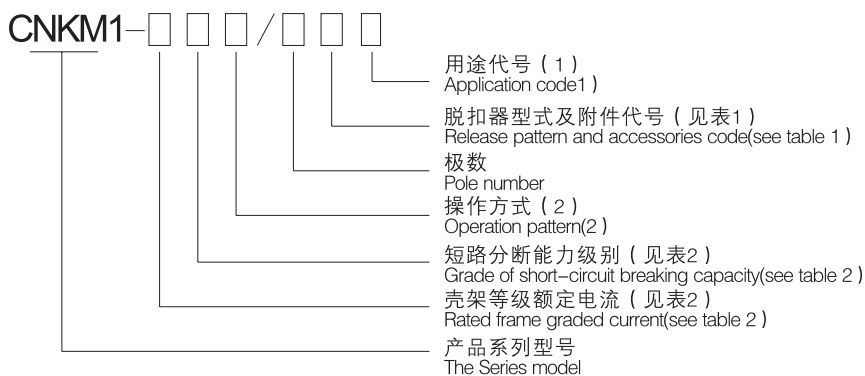
■ 概述 Summary

CNKM1 系列塑料外壳断路器，额定绝缘电压为800V，适用于交流50Hz，额定工作电压交流400V，额定电流至630A的电路中，作不频繁接通、分断配电电路或电动机电路。断路器具有过载、短路和欠电压保护功能，能保护线路及电源设备不受损坏。

产品符合GB14048.2、IEC60947-2标准要求。

Series CNKM1 molded case circuit breaker with rated insulating voltage of 800V and rated current up to 630A, is applicable to switch distribution circuits and motor circuits and protects cables and power equipment against damages arose from overload, short-circuit or under voltage faults. The products accord with GB14048.2 and IEC60947-2.

■ 型号及其含义 Model denomination



注: 1) 配电用断路器无代号, 电动机保护用断路器以“2”表示。

2) 手柄直接操作无代号, 旋转手柄操作“Z”表示, 电动操作“P”表示。

Note: 1) No code for power distribution, “2” for motor protection.

2) No code for direct operation by handle, “z” for rotary handle operation and “p” for power-driven operation.

■ 主要技术指标 Technical data

脱扣器和附件

Release pattern and accessories

表1 脱扣器的型式及附件代号

Table 1 Release pattern and accessories code

过电流脱扣器型式 Over current release pattern	报警触头 Alarm contacts	附件名称 Name							
		无 Without	分励脱扣器 Shunt release	辅助触头 Auxiliary contacts	欠电压脱扣器 Under voltage release	分励脱扣器和辅助触头 Shunt release Auxiliary contacts	分励脱扣器和欠电压脱扣器 Shunt release Under voltage release	2组辅助触头 2 sets auxiliary contacts	辅助触头和欠电压脱扣器 Auxiliary contacts and under voltage release
瞬时脱扣器 Instantaneous release	无 Without	200	210	220	230	240	250	260	270
	有 With	208	218	228	238	248	—	268	278
复式脱扣器 Compound release	无 Without	300	310	320	330	340	350	360	370
	有 with	308	318	328	338	348	—	368	378



主要技术性能

Main technical data

表2 主要技术性能
Table2 main Technical data

壳架电流 Frame graded current (A)	短路分断能力级别 Grade of short-circuit breaking capacity	短路分断能力 极限/运行 Short-circuit breaking capacity limiting/operating	断路器额定电流/中心极额定电流 Rated current/Rated current of the neutral pole A	操作性能 Operation performance	
				通电 On load times	不通电 Off load times
63	L	25/18	10/10、16/16、25/25、32/32	1500	8500
	M	50/35	40/40、50/50、63/63		
100	L	35/22	16/16、20/20、32/32、40/40	1500	8500
	M	50/35	50/50、63/63、80/63、100/63		
225	L	35/25	100/100、125/125、160/160	1000	7000
	M	50/35	180/100、200/100、225/125		
400	L	50/35	225/225、250/250、315/225	1000	4000
	M	65/45	350/250、400/250		
630	L	50/35	400/250、500/315、630/350	1000	4000
	M	65/42			

保护特性

断路器的电磁脱扣为瞬时动作特性，热动脱扣具有反时限保护特性，特性参数见表3~表5，时间-电流特性曲线和环境温度补偿特性见图1、图2。

Characteristics

The electromagnetic release is of instantaneous tripping pattern, while the thermodynamic release features the inverse time-delay as shown in table3~table5. Time-current characteristics and environment temperature compensation curves see figure 1 and figure 2.

表3 瞬时动作特性

Table3 Instantaneous release characteristics

壳架等级额定电流 Frame graded current(A)	配电保护用动作电流 Tripping current For distribution(A)	电动机保护用 For motor protection(A)
63、100	$10I_n \pm 20\%$	$12I_n \pm 20\%$
225、400、630	$10I_n (5 I_n) \pm 20\%$	$12I_n \pm 20\%$

注：壳架等级电流225A中无5In电磁脱扣器；括号内数据用户应和制造厂协商后订货。

Notes: No electromagnetic release of 5In for frame graded current of 225A. Manufactured to order for parameters in brackets. Please enquire regarding availability.

表4 配电保护用过载脱扣器动作特性

Table 4 Overload release characteristics for distribution

试验电流名称 Current item	I / Ir	约定时间 Conventional time (+40℃)			起始状态 Initial state
		$I_n \leq 63 A$	$63A < I_n \leq 225 A$	$I_n > 225 A$	
约定不脱扣电流 Conventional non-tripping	1.05	1h	2h		冷态 Cold
约定脱扣电流 Conventional tripping	1.30	1h	2h		热态 Hot

表5 电动机保护用过载脱扣器动作特性

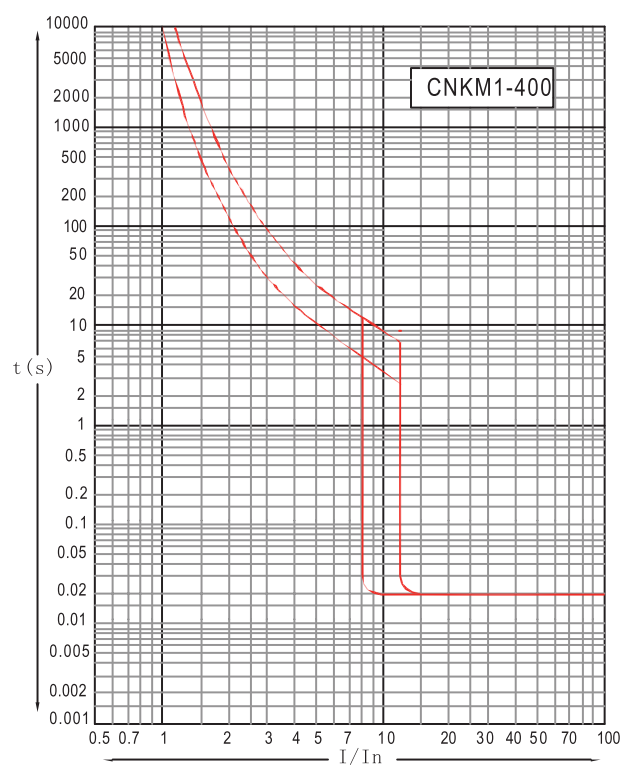
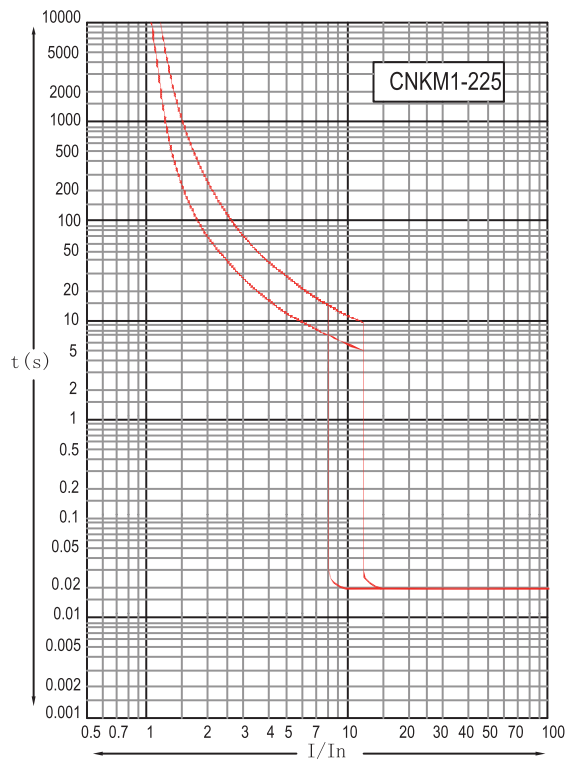
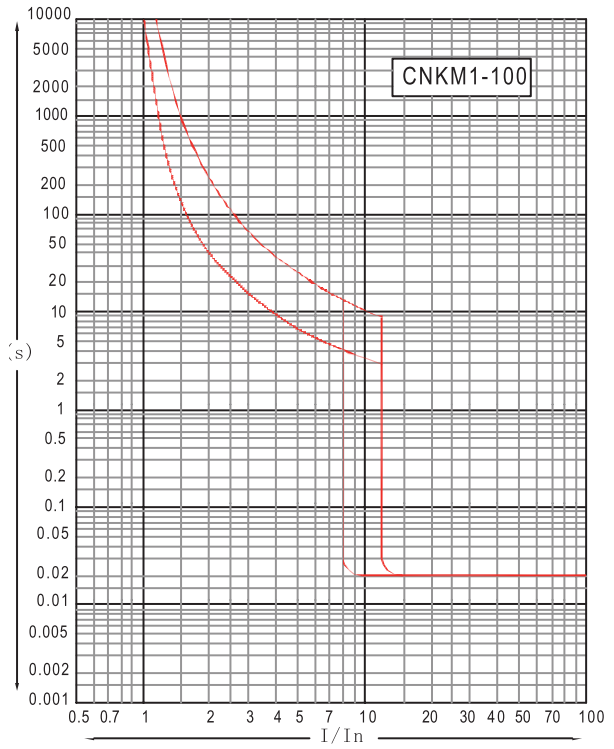
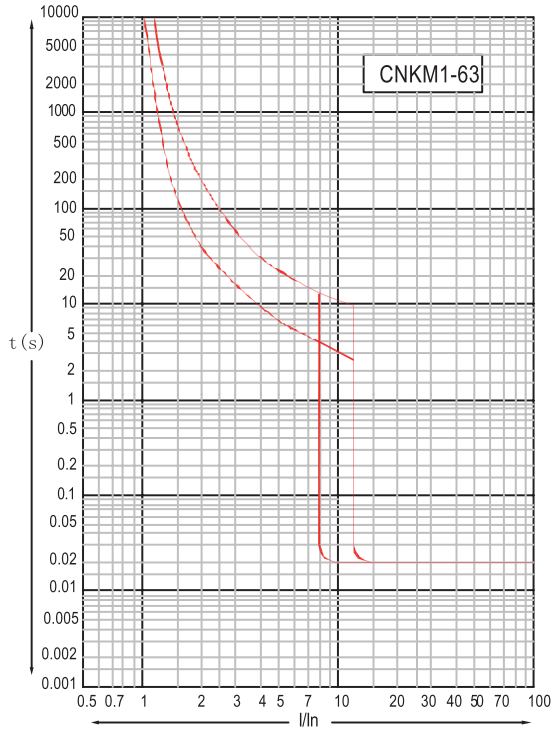
Table5 Overload release characteristics for motor protection

试验电流名称 Current item	I / Ir	约定时间 Conventional time (+40℃)		起始状态 Initial state
		$I_n \leq 225 A$	$I_n > 225 A$	
约定不脱扣电流 Conventional non-tripping	1.0	2h		冷态 Cold
约定脱扣电流 Conventional tripping	1.2	2h		热态 Hot
	1.5	4min	8min	热态 Hot
	7.2	$4s < T_p \leq 10s$	$6s < T_p \leq 20s$	冷态 Cold



时间-电流特性

Time-current characteristics





环境温度补偿特性

Environment temperature compensation characteristics

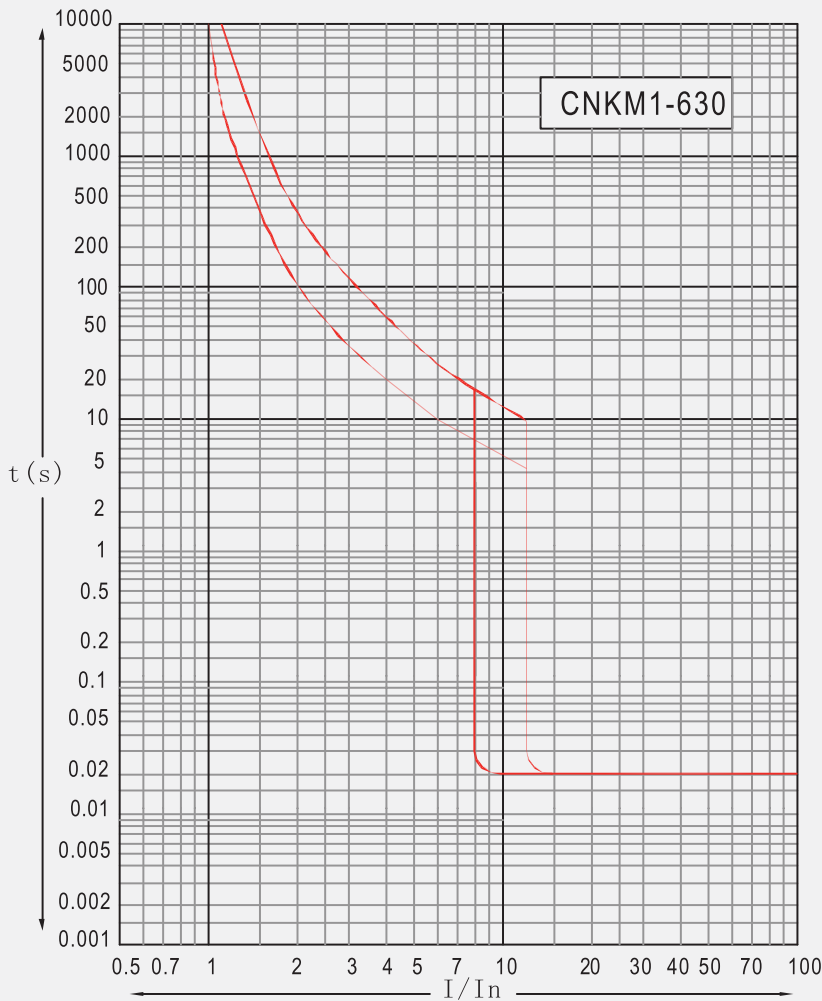
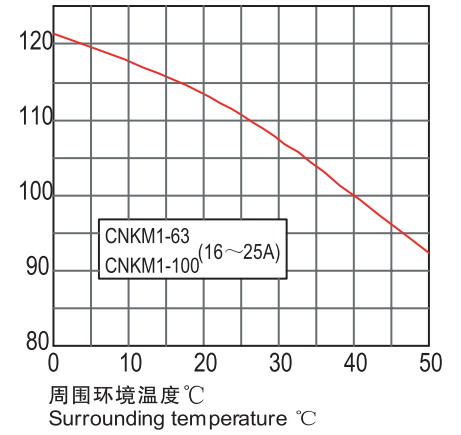
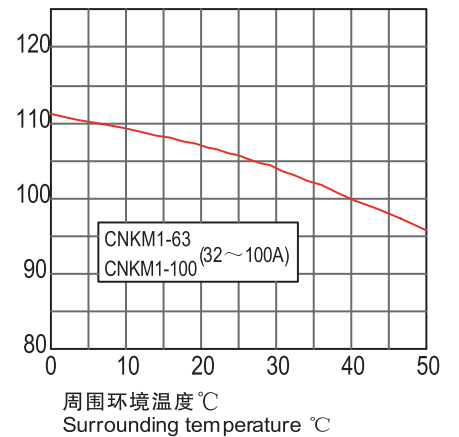


图1 时间-电流特性
Figure1 Time-current characteristics

额定电流 %
Rated current %

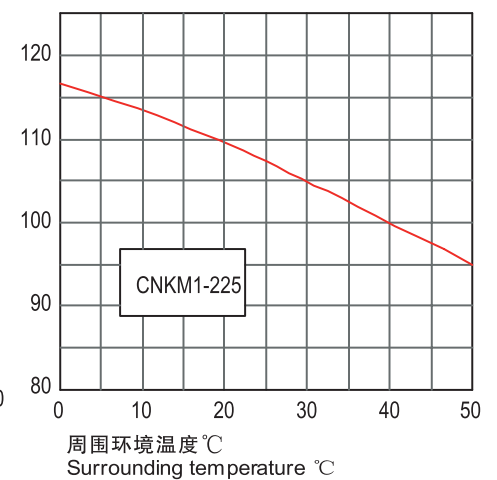


额定电流 %
Rated current %

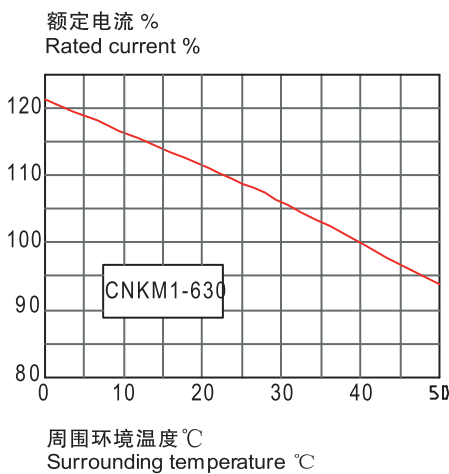


周围环境温度 °C
Surrounding temperature °C

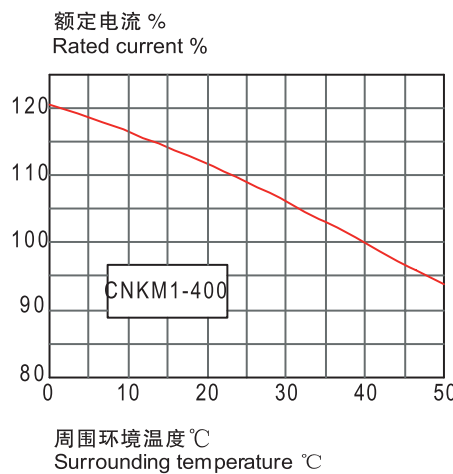
额定电流 %
Rated current %



周围环境温度 °C
Surrounding temperature °C



周围环境温度 °C
Surrounding temperature °C



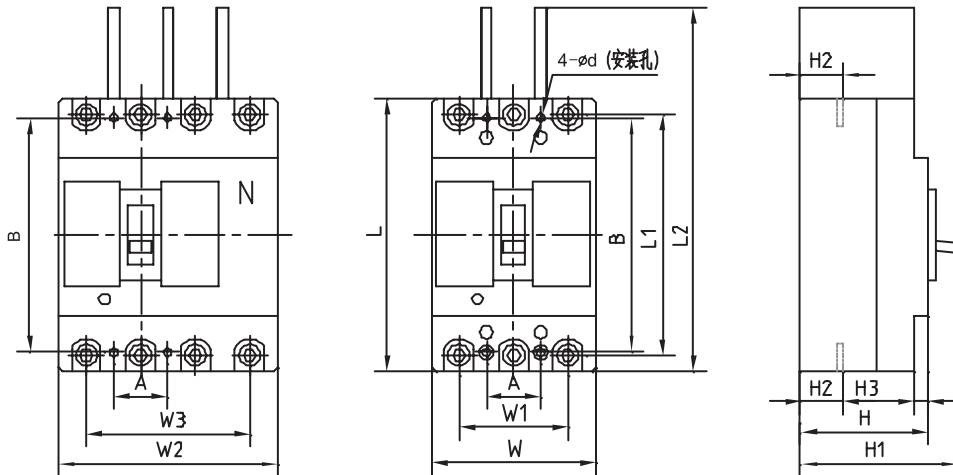
周围环境温度 °C
Surrounding temperature °C

图2 环境温度补偿特征
Figure2 Environment temperature characteristics

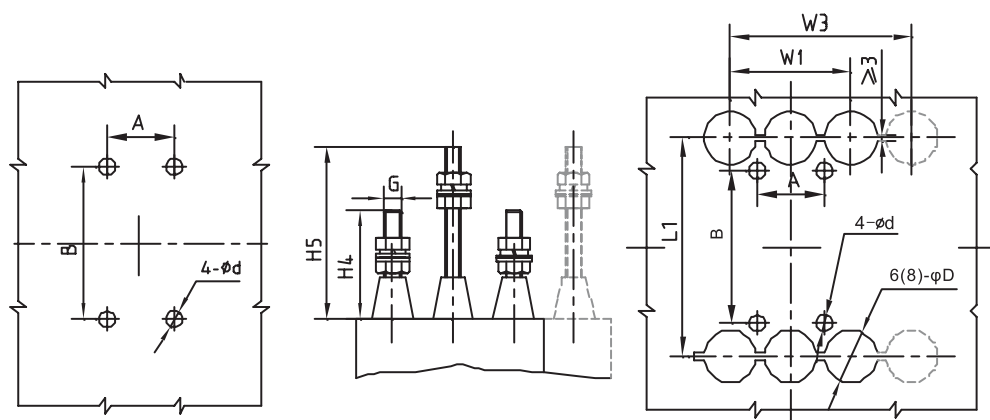


■ 外形及安装尺寸 Overall dimensions

CNKM1-63、100、225板前接线 Front connection



CNKM1-63、100、225板后接线 Rear connection



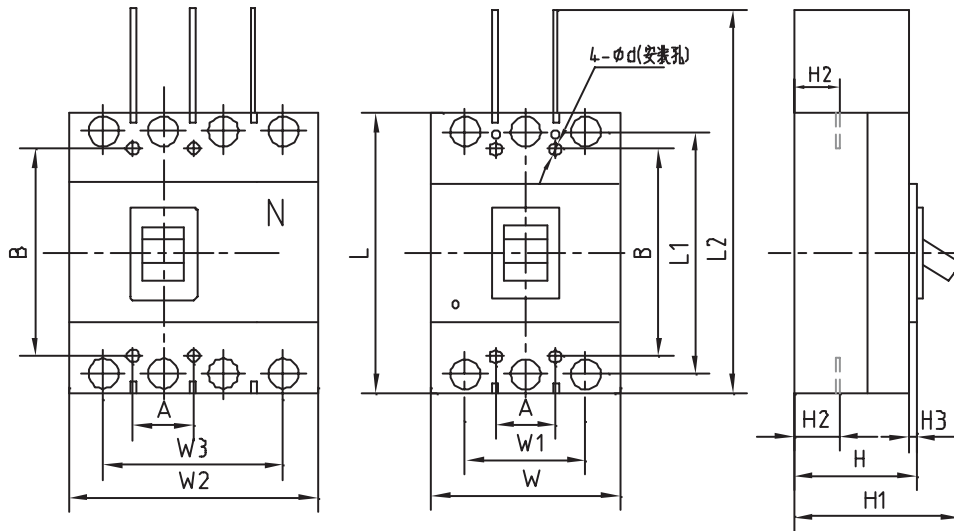
CNKM1-63、110、225板前、板后接线及安装开孔尺寸
CNKM1-63、110、225 for front and rear connections

mm

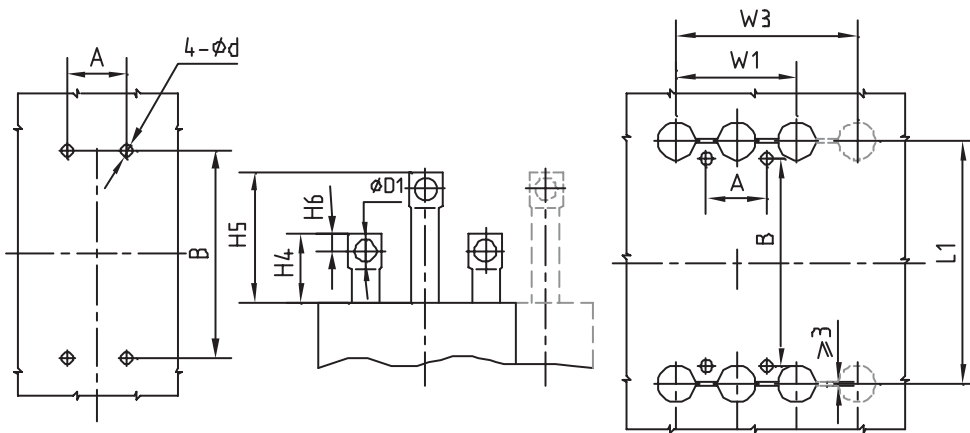
型号 Model	外形尺寸 Overall dimensions														安装尺寸 Installing dimensions			
	板前接线 Front connection							板后接线 Rear connection							A	B	φd	
	W	L	H	W1	L1	H1	L2	H2	H3	W2	W3	H4	H5	G	φD			
CNKM1-63L	77	135	73.5	50	117	91	170	20	7	100	75	44	66	M5	8	25	117	3.5
CNKM1-63M	77	135	81.5	50	117	101	170	28	7	100	75	44	66	M5	8	25	117	3.5
CNKM1-100L	92	150	68	60	132	87	200	24	7	122	90	68	108	M8	26	30	129	5
CNKM1-100M	92	150	86	60	132	105	200	24	7	122	90	68	108	M8	26	30	129	5
CNKM1-225L	107	165	86	70	144	110	215	24	6.5	142	105	66	110	M8	20	35	126	4.5
CNKM1-225M	107	165	103	70	144	127	215	24	6.5	142	105	66	110	M8	20	35	126	4.5



CNKM1-400、630板前接线 Front connection



CNKM1-400、630板后接线 Rear connection



CNKM1-63、110、225板前、板后接线及安装开孔尺寸
CNKM1-63、110、225 for front and rear connections

mm

型号 Model	外形尺寸 Overall dimensions											安装尺寸 Installing dimensions							
	板前接线 Front connection						板后接线 Rear connection					A	B	f d					
	W	L	H	W1	L1	H1	L2	H2	H3	W2	W3	H4	H5	H6	φD	φD1			
CNKM1-400L	151	257	100	96	224	155	362	38	8	198	144	60	120	16	33	10.5	44	194	7
CNKM1-400M	151	257	105	96	224	146.5	362	38	8	198	144	60	120	16	33	10.5	44	194	7
CNKM1-630L	183	270	110	116	234	161	375	43	8	240	174	65	125	16	36	13	58	200	7
CNKM1-630M	183	270	110	116	234	161	375	43	8	240	174	65	125	16	36	13	58	200	7



■ 附件安装 Accessories

内部附件

Inner accessories

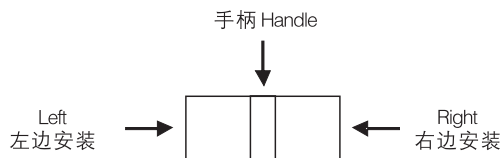


图3 内部附件安装示意图

Figure 7 Inner accessories

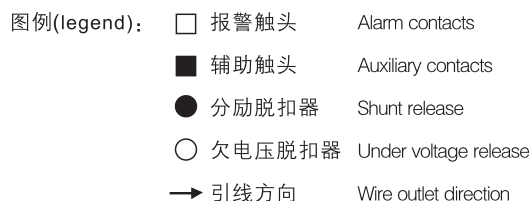


表6内部附件代号及其组合

Table 8 Inner accessories code and its' combinations

附件代号 Code	附件名称 Name	型号 Model	极数 Pole number		CNKM1—63 CNKM1—100		CNKM1—225		CNKM1—400		CNKM1—630	
					3	4	3	4	3	4	3	4
208, 308	报警触头 Alarm contacts				← □ □	← □ □	← □ □	← □ □	← □ □	← □ □	← □ □	← □ □
210, 310	分励脱扣器 Shunt release				← ● □	← ● □	← ● □	← ● □	← ● □	← ● □	← ● □	← ● □
220, 320*	辅助触头 auxiliary contacts				← ■ □	← ■ □	← ■ □	← ■ □	← ■ □	← ■ □	← ■ □	← ■ □
230, 330	欠电压脱扣器 Under voltage release				□ □ ○ →	□ □ ○ →	□ □ ○ →	□ □ ○ →	□ □ ○ →	□ □ ○ →	□ □ ○ →	□ □ ○ →
240, 340*	分励脱扣器 辅助触头 Shunt release auxiliary contacts				← ● ■ □	← ● ■ □	← ● ■ □	← ● ■ □	← ● ■ □	← ● ■ □	← ● ■ □	← ● ■ □
250, 350	分励脱扣器 欠电压脱扣器 Shunt release Under voltage release				← ● □ ○ →	← ● □ ○ →	← ● □ ○ →	← ● □ ○ →	← ● □ ○ →	← ● □ ○ →	← ● □ ○ →	← ● □ ○ →
260, 360*	二组辅助触头 Two sets auxiliary contacts				← ■ □ ■ □	← ■ □ ■ □	← ■ □ ■ □	← ■ □ ■ □	← ■ □ ■ □	← ■ □ ■ □	← ■ □ ■ □	← ■ □ ■ □
270, 370*	辅助触头 欠电压脱扣器 Auxiliary contacts Under voltage release				← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →
218, 318	分励脱扣器 报警触头 Shunt release Alarm contacts				← □ ● □	← □ ● □	← ● □ □	← ● □ □	← ● □ □	← ● □ □	← ● □ □	← ● □ □
228, 328	辅助触头 报警触头 Auxiliary contacts Alarm contacts				← ■ □ □	← ■ □ □	← □ ■ □	← □ ■ □	← □ ■ □	← □ ■ □	← □ ■ □	← □ ■ □
238, 338	欠电压脱扣器 报警触头 Under voltage release Alarm contacts				← □ □ ○ →	← □ □ ○ →	← □ □ ○ →	← □ □ ○ →	← □ □ ○ →	← □ □ ○ →	← □ □ ○ →	← □ □ ○ →
248, 348	分励脱扣器 辅助触头 报警触头 shunt release Auxiliary contacts alarm contacts				← ■ □ ● □	← ■ □ ● □	← ● □ ■ □	← ● □ ■ □	← ● □ ■ □	← ● □ ■ □	← ● □ ■ □	← ● □ ■ □
268, 368	二组辅助触头 报警触头 Two sets auxiliary contacts Alarm contacts				← ■ □ ■ □	← ■ □ ■ □	← □ ■ □	← □ ■ □	← □ ■ □	← □ ■ □	← □ ■ □	← □ ■ □
278, 378	辅助触头 欠电压脱扣器 报警触头 Auxiliary contacts Under voltage release Alarm contacts				← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →	← ■ □ ○ →

注: 带*号的规格可供两组辅助触头(CNKM1-63除外), 但订货时需注明。

Note: Two contacts available for starred items (except for CNKM1-63) so long as indicated in order.

外部附件

Outer accessories

电动操作机构操作断路器脱扣跳闸后，必须使断路器再扣，然后才能进行合闸操作。
The breaker must be re-cramped before closing operation when it is tripped by the power driven operation devices.

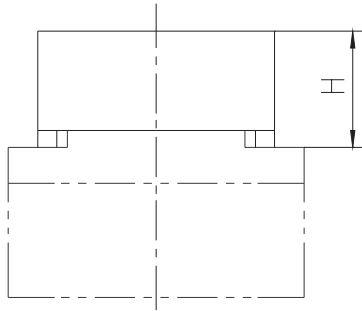


图4 电磁式电动操作机构
Figure 4 operation devices.

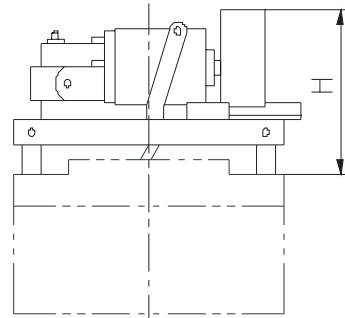
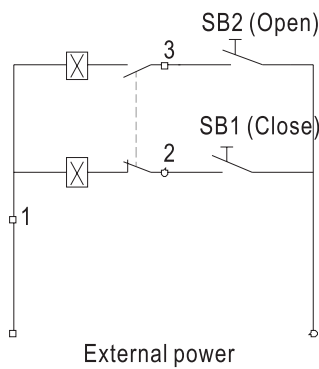


图5 电动机式操作机构
Figure 5 Motor driven operation devices

表7 电动操作机构型式和尺寸

Table 7 Patterns and dimensions of power driven operation devices

型号	Model	CNKM1-63	CNKM1-100	CNKM1-225	CNKM1-400L	CNKM1-400M	CN KM1-630
电动操作机构型式	Operation patterns	Electromagnetic			Motor driven		
高度	Height (mm)	91	91	101	141	128	141



符号说明:
Legend

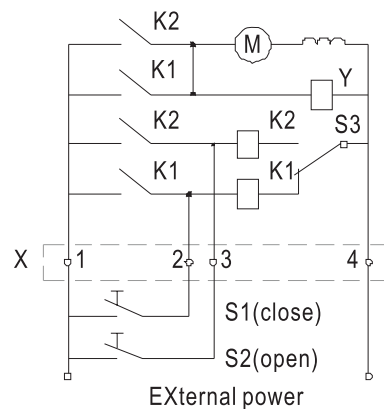
SB1、SB2—操作按钮(用户自备)
SB1、SB2—push buttons(client prepared)

1、2、3—接线端子编号
1、2、3—terminal number

控制电源电压: A.C. 50Hz 230V、400V; D.C. 230V
Control power voltage: 230V、400V a.c. 50Hz; And 230V d.c.

图6 电磁铁操作机构接线图

Figure 6 Wiring diagram for electromagnetic operation device



符号说明:
Legend

S1、S2—操作按钮(用户自备)
S1、S2—push buttons(client prepared)

S3—微动开关
S3—Micro-switch

K1、K2—自锁继电器
K1、K2—Self-locking relay

X—接线端子
X—Terminal

M—专用串激电动机
M—Special series motor

Y—刹车电磁铁
Y—Brake electromagnet

控制电源电压: A.C. 50Hz 230V、400V; D.C. 230V
Control power voltage: 230、400V a.c. 50Hz; 230V d.c.

图7 电动机操作机构接线图

Figure 7 Wiring diagram for motor driven operation device