



电动操作机构使用说明书

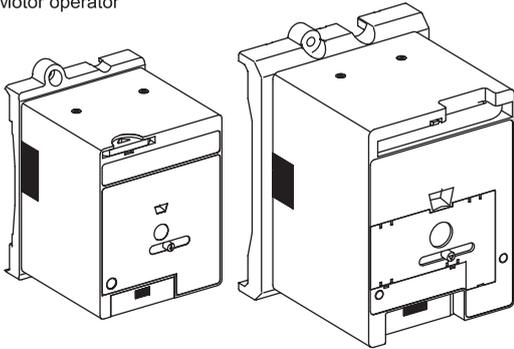
MOTOR OPERATOR OPERATION MANUAL

CM3、CM3L、CM3E、CM3DC、CM3Z、CM3ZL系列
CM3、CM3L、CM3E、CM3DC、CM3Z、CM3ZL series

打开包装, 应有下列零部件

Open the package, there are following parts

电动操作机构 (电操)
Motor operator



附件: Accessories:

数量 (规格) Numbers (specifications)

型号 Type	配用断路器 Suitable circuit-breaker	紧固螺钉 Fixed screws	安装螺钉 Mounting screws	安装螺母 Mounting nuts	电流 标签 Current tag	使用说明书 (含合格证) Operation manual (including certificate)
FDC1/CM3-63	CM3-63	x2 (M3X64)	-	x2	x1	x1
FDC1/CM3-100C	CM3-100C, CM3DC-100	x2 (M3X64)	-	x2	x1	x1
FDC1/CM3-100	CM3-100L/M/H	x2 (M4X16)	x2	x2	x1	x1
FDC1/CM3-250C	CM3-250C	x2 (M4X60)	-	x2	x1	x1
FDC1/CM3-250	CM3-250L/M/H, CM3DC-250	x2 (M4X16)	x2	x2	x1	x1
FDC1/CM3DC-250HU	CM3DC-250HU	x2 (M4X16)	x2	x2	x1	x1
FDC1/CM3L-100	CM3L-100	x2 (M4X20)	x2	x2	x1	x1
FDC1/CM3L-250	CM3L-225, CM3L-250	x1 (M4X14) x1 (M4X45)	x1	x1	x1	x1
FDC1/CM3E-100	CM3E-100	x2 (M4X20)	x2	x2	x1	x1
FDC1/CM3E-250	CM3E-250	x1 (M4X14) x1 (M4X45)	x1	x1	x1	x1
FDC1/CM3Z-100	CM3Z-100	x2 (M4X20)	-	-	x1	x1
FDC1/CM3Z-250	CM3Z-250	x2 (M4X50)	-	-	x1	x1
FDC1/CM3ZL-250	CM3ZL-100, CM3ZL-250	x2 (M4X50)	x2	x2	x1	x1
FDC1/CM3-400	CM3-400, CM3E-400, CM3DC-400	x2 (M6X30)	x2	x2	x1	x1
FDC1/CM3-630	CM3-630, CM3DC-630	x2 (M6X30)	x2	x2	x1	x1
FDC1/CM3-800	CM3-800, CM3E-630, CM3E-800, CM3DC-800	x2 (M6X30)	x2	x2	x1	x1
FDC1/CM3L-400	CM3L-400	x2 (M6X30)	x2	x2	x1	x1
FDC1/CM3L-630	CM3L-630	x2 (M6X30)	x2	x2	x1	x1
FDC1/CM3Z-630	CM3Z-400, CM3Z-630, CM3ZL-630	x2 (M6X30)	x1	x1	x1	x1
FDC1/CM3ZL-630	CM3ZL-400	x2 (M6X30)	x1	x1	x1	x1
FDC1/CM3Z-800	CM3Z-800, CM3ZL-800	x2 (M6X30)	x2	x2	x1	x1
FDC1/CM3E-1250	CM3E-1250	x6 (M6X85)	-	-	x1	x1

重要注意事项

Important cautions

⚠ 重要注意事项 Important cautions

1. 本装置必须由合格的电工进行安装。我们不承担任何因未遵循本文档中的指南而导致的责任。
 2. 请选用合适的安装工具进行安装操作。安装工具请自备。
1. This device must be installed by qualified electrician. We will not accept any responsibility for failure to follow the guidelines in this document.
2. Please select suitable tools for installation. The installation tools should be prepared by yourself.

请检查电操各零部件是否完好, 如有缺损请及时与本公司联系解决。

Please check that whether the components of motor operator are in good condition, If there is any defect, please contact the company in time.

电操安装

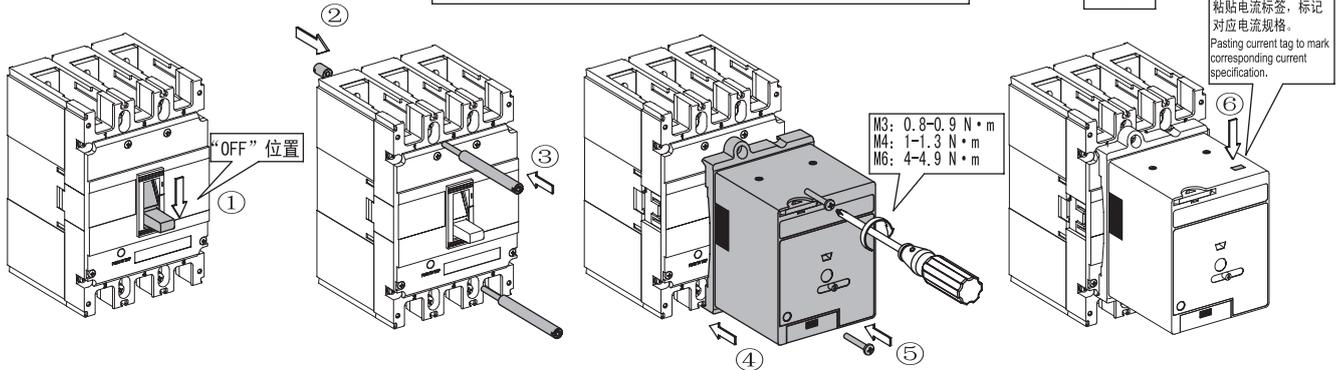
Motor operator mounting

注意 Cautions

断路器手柄须嵌入电操滑块中。否则会导致断路器不动作或损坏!
The handle of circuit breaker must be inseted in motor operator's slide, otherwise may lead to circuit breaker not operation or damage!

标记电流标签 (例: 250A)

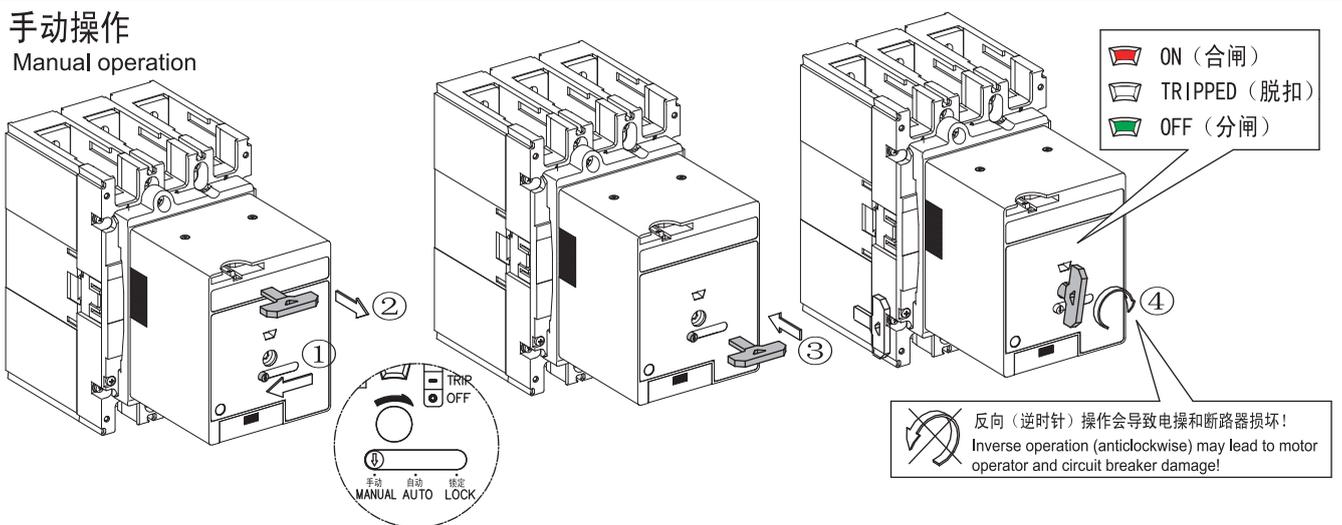
Marking current tag (example: 250A)



当电操和断路器一起订货时, 出厂前电操安装已完成, 电流标签已粘贴。
Before leaving factory, motor operator is mounted and current tag is pasted, when motor operator is ordered with circuit breaker.

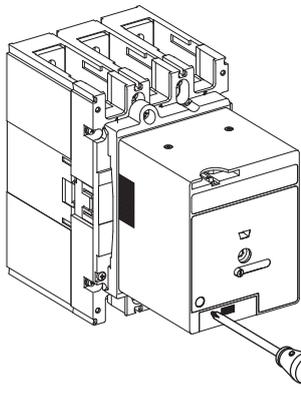
手动操作

Manual operation

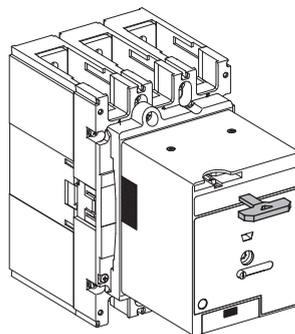


注意 Cautions

切换至“手动”才能进行手动操作：
电操安装完后需进行手动操作调试，按“合闸、脱扣、分闸”操作循环至少3次，确认无误后进行下一步安装操作。
Only may be operated manually when transferring to "manual" position;
After motor operator is finished to install, it needs to be operated manually to debug, and be pushed to "close, trip, open" operations three times at least and be confirmed to next operation.



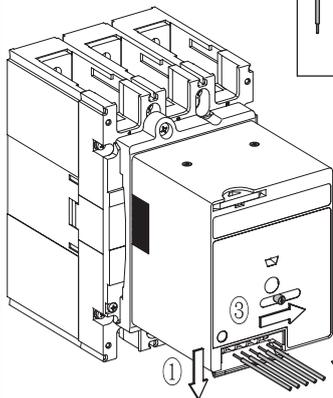
按下脱扣
Push to trip
注意不要在分闸状态按脱扣按钮！
Noticing don't push trip button when at open status!



手动操作完成后将操作把手装回备用。
Please put operating grip reinstall standby.

电动操作 Electrical operation

导线剥线长度4-6mm
Us为DC24V时导线规格：
截面1.5mm² ≤150m
截面2.5mm² ≤250m
Stripped length 4-6mm
Wire specification when Us is DC24V:
Cross-section 1.5mm² ≤150m
Cross-section 2.5mm² ≤250m



P1、P2禁止与S1、S2、S4相连接。
当Us为直流时，接线注意电源极性。
P1, P2 are prohibited to connect to S1, S2, S4.
When Us is DC supply, please noticing supply polarity when wiring.

接线示意 Wiring scheme



耐压测试 withstand voltage test

工频耐压 Power frequency withstand voltage	测试部位 Test positions
AC50Hz 1890V	Us为交流，所有接线端子与安装螺钉间 Us is AC, all terminals to mounting screws
AC50Hz 1890V	Us为直流(除DC24V外)，P1、P2与安装螺钉间 Us is DC (besides DC24V), P1, P2 to mounting screws
—	Us为DC24V，禁止耐压测试 Us is DC24V, withstand voltage test is prohibited.

注意 Cautions

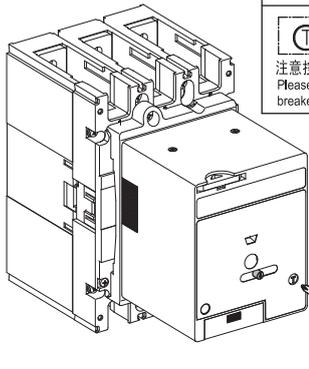
切换至“自动”才能进行电动操作：
电操安装完后需进行电动操作调试，按“合闸、脱扣、分闸”操作循环至少3次，确认无误后进行下一步安装操作；
合闸、分闸按钮和相应导线请自备；
合闸、分闸操作控制信号时间不小于50ms；
Electrical operation can be down when changing to "Auto";
After motor operator is finished to install, it needs to be operated automatically to debug, and be pushed to "close, trip, open" operations three times at least, and be confirmed to next operation;
The buttons of close, open and wires are self-prepared;
The control signals time of close, open operations is no less than 50ms.

型号规格 Type	Us	电源功率 Supply power
FDC1/CM3-63 FDC1/CM3-250C	AC110V DC24V	≥ 12.5W
FDC1/CM3-100C FDC1/CM3-250	AC230V DC110V	
FDC1/CM3-100 FDC1/CM3DC-250HU	AC400V DC220V	
FDC1/CM3L-100 FDC1/CM3E-250	AC110V DC24V	≥ 12.5W
FDC1/CM3L-250 FDC1/CM3Z-100	AC230V DC110V	
FDC1/CM3E-100 FDC1/CM3ZL-250	DC220V	

电操的操作频率为每小时不大于180次。
控制电压允差范围为85%Us~110%Us。
Operating frequency of motor operator is no more than 180/h times.
Control voltage range is 85%Us-110%Us.

漏电试验操作 Leakage test operation

FDC1/CM3L-100 FDC1/CM3L-400
FDC1/CM3L-250 FDC1/CM3ZL-250
漏电试验按钮
Leakage test push-button
注意按下会使断路器脱扣！
Please noticing to push to make circuit breaker trip!



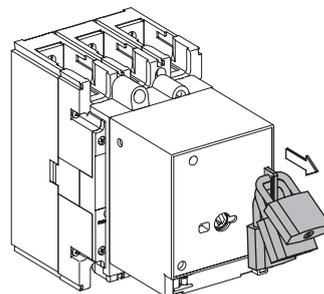
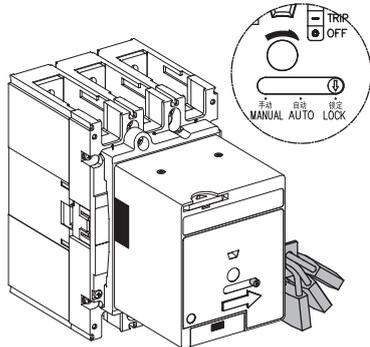
型号规格 Type	Us	电源功率 Supply power
FDC1/CM3-400 FDC1/CM3-630	AC110V DC24V AC230V DC110V AC400V DC220V	≥ 38W
FDC1/CM3L-400 FDC1/CM3E-630	AC110V DC24V	
FDC1/CM3L-630 FDC1/CM3ZL-630	AC230V DC110V DC220V	

电操的操作频率为每小时不大于60次。
控制电压允差范围为85%Us~110%Us。
Operating frequency of motor operator is no more than 180/h times.
Control voltage range is 85%Us-110%Us.

型号规格 Type	Us	电源功率 Supply power
FDC1/CM3E-1250	AC230V DC220V AC400V	≥ 38W

电操的操作频率为每小时不大于60次。
控制电压允差范围为85%Us~110%Us。
Operating frequency of motor operator is no more than 180/h times.
Control voltage range is 85%Us-110%Us.

挂锁操作 Padlock operation



注意 Cautions

断路器处于非合闸状态时才能进行挂锁操作：
切换至“锁定”进行挂锁操作；
挂锁后无论是手动还是电动都不能操作断路器闭合；
挂锁请自备。
Circuit breaker may be padlocked when it is not at close status;
Padlocked when changing to "lock";
Circuit breaker can't be operated to close whether manual or electrical after padlocked;
Padlocks are self-prepared.

钩环直径 Shackle diameter	挂锁数量 Padlock number
φ4-φ6	≤ 3

保养和维护 Maintenance

电操机构平时一般不需多加维护，但须定期（一般一年）检查各紧固件是否松动，各动作部分是否正常，在动作处加少量润滑油脂。

Motor operator isn't needed to be maintained generally, but it's fasteners may be checked termly if loosened, and it's activity parts if normality, and little lubricating grease is coated at activity parts.

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