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**Aoasis**

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# 低压控制与保护产品

Low-Voltage Control And Protection product



**Aoasis**

浙江中奥电气有限公司  
ZHEJIANG ZHONGAO ELECTRIC CO.,LTD.

绿色智造 共创未来

Green and intelligent production, create the future together.



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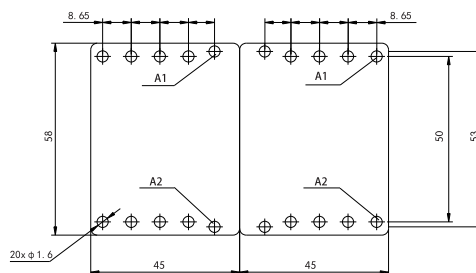
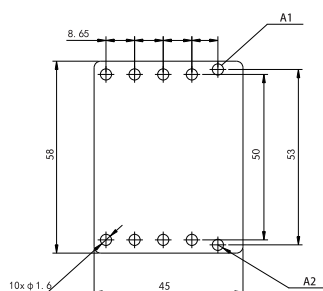
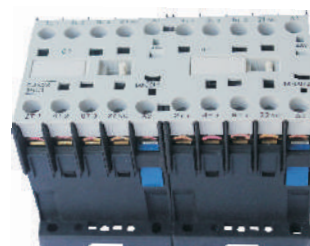
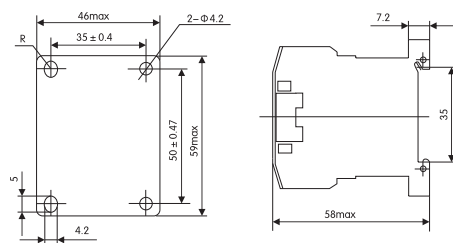
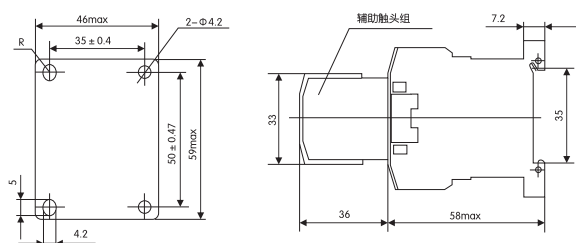




## 电路特性与安装接线

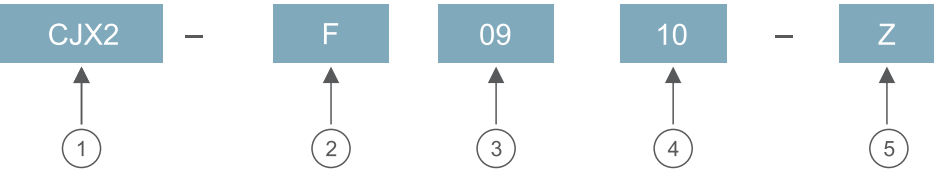
|                             |                                |                                 |    |                                                 |            |            |
|-----------------------------|--------------------------------|---------------------------------|----|-------------------------------------------------|------------|------------|
| 连接线路<br>Connection Circuits | 型号<br>Type                     | 交流接触器<br>AC Contactor           |    | CJX2-K06                                        | CJX2-K09   | CJX2-K12   |
|                             |                                | 直流接触器<br>DC Contactor           |    | CJX2-K06Z                                       | CJX2-K09Z  | CJX2-K12Z  |
|                             |                                | 机械联锁接触器<br>Reversing Contactors | AC | CJX2-K06N                                       | CJX2-K09N  | CJX2-K12N  |
|                             |                                |                                 | DC | CJX2-K06ZN                                      | CJX2-K09ZN | CJX2-K12ZN |
| 线圈电压<br>Coil Voltage (V)    | AC<br>50Hz/60Hz                |                                 |    | 24, 48,110, 220/230,380/400                     |            |            |
|                             | DC                             |                                 |    | 24, 48, 110,220                                 |            |            |
| 动作特性范围<br>Acting Range      | 吸合特性（热态）<br>Attraction(Hot)    |                                 |    | (85%~110%)Us;+40℃                               |            |            |
|                             | 释放特性（冷态）<br>Release(Cold)      |                                 |    | AC:(20%~75%)Us,DC:(10%~75%)Us;-5℃               |            |            |
| 安装<br>Installation          |                                |                                 |    | 35mm导轨或螺钉（M4）固定<br>35mm DIN rail or screw（M4）   |            |            |
| 接线<br>Connection            | 主触点<br>Main Contact            |                                 |    | 螺钉（M3）<br>线径：1~4mm²<br>Screw（M3）<br>Wire：1~4mm² |            |            |
|                             | 辅助触点/线圈<br>Aux. Contact / Coil |                                 |    | 螺钉（M3）压线式端子<br>Screw（M3）line-pressed terminal   |            |            |

## 外形及安装尺寸 Outline and Installation Dimensions



CJX2 交流接触器

型号及其含义Type and Signification



- ① 产品代号Product code
- ② F:大容量交流接触器F Series Large Capacity AC Contact  
□:交流接触器AC Contactor

- ③ 额定工作电流Rated Operating Current

④

|         |                           |
|---------|---------------------------|
| 10      | 表示辅助触头组1常开Aux. Contact NO |
| 01      | 表示辅助触头组1常闭Aux. Contact NC |
| 004/008 | 表示为四极接触器4-pole Contactor  |

⑤

| 接触器类型Contactor type |                             |
|---------------------|-----------------------------|
| —                   | 标准型Standard Type            |
| Z                   | 直流接触器DC Contactors          |
| N                   | 机械联锁接触器Reversing Contactors |

适用范围 Application Range

CJX2-□□系列接触器适用于工作电压交流50Hz或60Hz、工作电压至660V，电流至170A的电路中，供远距离接通与分断电路及频繁启动、控制交流电动机，接触器还可以组装成积木式辅助触头组、空气延时头、机械联锁机构等部件，组成延时接触器、机械联锁接触器、切换电容器接触器、星三角启动器，并且可以和JR28热过载继电器插接安装组成电动机启动器。

CJX2-□□series contactor is suitable for using in the circuit up to the rated voltage 600V AC 50Hz or 60Hz, rated current 170A, for making and breaking and frequent starting, controlling the AC motor which is combined with the auxiliary contact group, air delay, machine interlocking device and etc. It is combined into the delay contactor, mechanical interlock contactor, switchover capacitor contactor, star-delta starter, with the thermal JR28 relay; it is combined into the D.O.L Motor Starters.

辅助触点模块 Aux. Contacts Blocks

|                             |         |                         |                           |
|-----------------------------|---------|-------------------------|---------------------------|
| 外观<br>Picture               |         |                         |                           |
| 型号<br>Type                  | F8      | F4-20<br>F4-11<br>F4-02 | F4-40<br>F4-31<br>F4-22   |
| 触头结构<br>Contact Arrangement | 1NO+1NC | 2NO<br>1NO+1NC<br>2NC   | 4NO<br>3NO+1NC<br>2NO+2NC |

空气延时头 Air Time Delay

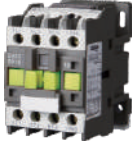
| 型号<br>Type | 延时范围<br>Delay Range | 延时类型<br>Delay Type     | 简图<br>Picture                                                                         |
|------------|---------------------|------------------------|---------------------------------------------------------------------------------------|
| LA2-DT0    | 0.1~3s              | 通电延时<br>Closing Delay  |  |
| LA2-DT2    | 0.1~30s             |                        |                                                                                       |
| LA2-DT4    | 10~180s             |                        |                                                                                       |
| LA3-DR0    | 0.1~3s              | 断电延时<br>Breaking Delay |                                                                                       |
| LA3-DR2    | 0.1~30s             |                        |                                                                                       |
| LA3-DR4    | 10~180s             |                        |                                                                                       |

附件装配图

结构特点 Type

CJX2系列产品可以采用积木式安装方式加装辅助触头组、空气延时头、热过载继电器等附件，组合成多种派生产品；

CJX2 Series products can use building-block install way to add auxiliary contact group time-delay block, thermal relay and other accessories forming various of derived products.

| 派生产品<br>Derived Products         | 接触器<br>Contactor                                                                    | 辅助模块<br>Auxiliary Modular                                                                                                  | 简图<br>Picture                                                                                                                                                                                          |
|----------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 延时接触器<br>Time-delay Contactor    |    | <br>空气延时头<br>Air Time Delay              |                                                                                                                     |
| 机械联锁接触器<br>Reversing Contactors  |   | <br>机械联锁<br>Mechanical Interlock Unit   |                                                                                                                    |
| 电动机起动器<br>D.O.L Motor Starters   |  | <br>热继电器<br>Thermal Relay              |                                                                                                                   |
| 切换电容器接触器<br>Capacitor Contactors |  | <br>切换电容头<br>Switchover Capacitor Unit |                                                                                                                   |
| 星三角起动器<br>Star-delta Starter     |  | <br>空气延时头<br>Air Time Delay            | <br><br>辅助触头组<br>Aux.Contact |

## CJX2 交流接触器



## 技术参数 Technical Parameters

| 型号 Type                                                      |                                                             |            | CJX2-09               | CJX2-12 | CJX2-18 | CJX2-25 | CJX2-32 |
|--------------------------------------------------------------|-------------------------------------------------------------|------------|-----------------------|---------|---------|---------|---------|
| 额定功率<br>Rated Power kW/HP(AC-3)<br>IEC60947-4-1<br>GB14048.4 | 200-240V                                                    | 2.2/3      | 3/4                   | 4/5.5   | 5.5/7.5 | 7.5/10  |         |
|                                                              | 380-440V                                                    | 4/5.5      | 5.5/7.5               | 7.5/10  | 11/15   | 15/20   |         |
|                                                              | 500-550V                                                    | 5/7        | 7.5/10                | 9/12    | 15/20   | 18.5/25 |         |
|                                                              | 660-690V                                                    | 5.5/7.5    | 7.5/10                | 10/13.5 | 15/20   | 18.5/25 |         |
| 额定电流<br>Rated Current A(AC-3)<br>IEC60947-4-1<br>GB14048.4   | 200-240V                                                    | 11         | 15                    | 22      | 30      | 40      |         |
|                                                              | 380-440V                                                    | 9          | 12                    | 18      | 25      | 32      |         |
|                                                              | 500-550V                                                    | 7          | 9                     | 12      | 18      | 21      |         |
|                                                              | 660-690V                                                    | 7          | 9                     | 12      | 18      | 21      |         |
| 约定发热电流Conventional Thermal Current Ith:(A)                   |                                                             | 25         | 25                    | 32      | 40      | 50      |         |
| 额定绝缘电压Rated Insulated Voltage Ui:(V)                         |                                                             | 690        |                       |         |         |         |         |
| 辅助触头                                                         | 触头构成<br>Contact Arrangement                                 | 标准Standard | 1NO                   |         |         |         |         |
|                                                              |                                                             | 特殊Special  | 1NC                   |         |         |         |         |
| Auxiliary Contact                                            | 额定电流<br>Rated Current A(AC-15)<br>IEC60947-5-1<br>GB14048.5 | 200-240V   | 1.6                   |         |         |         |         |
| AC-15                                                        |                                                             | 380-440V   | 0.95                  |         |         |         |         |
|                                                              | 约定发热电流<br>Conventional Thermal Current Ith:(A)              |            | 16                    |         |         |         |         |
| 电寿命 (AC-3) 百万次Electrical Life(Million Times)                 |                                                             |            | 见曲线图 Refer to Page 22 |         |         |         |         |
| 机械寿命 (百万次) Mechanical Life(Million Times)                    |                                                             |            | 8                     |         |         |         |         |

## 电路特性与安装接线 Circuits Characteristic and Terminal Connection

| 连接线路<br>Connection Circuits                   | 型号<br>Type                    | CJX2-09                                                          | CJX2-12 | CJX2-18 | CJX2-25 | CJX2-32 |
|-----------------------------------------------|-------------------------------|------------------------------------------------------------------|---------|---------|---------|---------|
| 线圈电压<br>Coil Voltage (V)                      | AC<br>50Hz/60Hz               | 24, 48, 110, 220/230, 380/400, 420/440                           |         |         |         |         |
| 动作特性范围<br>Acting Range                        | 吸合特性 (热态)<br>Attraction (Hot) | (85%~110%)U <sub>s</sub> ; +40°C                                 |         |         |         |         |
|                                               | 释放特性 (冷态)<br>Release (Cold)   | AC: (20%~75%)U <sub>s</sub> ; DC: (10%~75%)U <sub>s</sub> ; -5°C |         |         |         |         |
| 安装<br>Installation                            |                               | 35mm 导轨或螺钉 (M4) 固定<br>35mm DIN rail or screw (M4)                |         |         |         |         |
| 主回路连接线<br>Control Circuit Connection          |                               | 最小/最大 截面积 (mm) <sup>2</sup><br>Min./Max. sectional area          |         |         |         |         |
| 不带端子软线<br>Flexible wire<br>(without terminal) | 1根导线 1wire                    | 1/4                                                              | 1/4     | 1.5/6   | 1.5/10  | 2.5/10  |
|                                               | 2根导线 2wires                   | 1/4                                                              | 1/4     | 1.5/6   | 1.5/6   | 2.5/10  |
| 带端子软线<br>Flexible wire<br>(with terminal)     | 1根导线 1wire                    | 1/4                                                              | 1/4     | 1/6     | 1/6     | 1/10    |
|                                               | 2根导线 2wires                   | 1/2.5                                                            | 1/2.5   | 1/4     | 1/4     | 1.5/6   |
| 不带端子的硬线<br>Hard wire<br>(without terminal)    | 1根导线 1wire                    | 1/4                                                              | 1.5/6   | 1.5/6   | 1.5/6   | 1.5/10  |
|                                               | 2根导线 2wires                   | 1/4                                                              | 1.5/6   | 1.5/6   | 1.5/6   | 2.5/10  |



## CJX2 交流接触器



## 技术参数 Technical Parameters

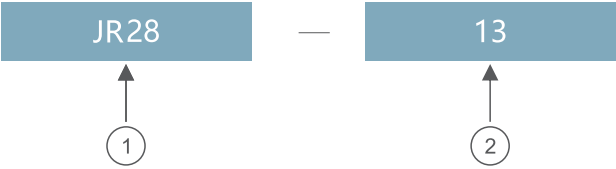
| 型号 Type                                                      |                                                             |            | CJX2-40               | CJX2-50 | CJX2-65 | CJX2-80 | CJX2-95 | CJX2-115 | CJX2-150 | CJX2-170 |
|--------------------------------------------------------------|-------------------------------------------------------------|------------|-----------------------|---------|---------|---------|---------|----------|----------|----------|
| 额定功率<br>Rated Power kW/HP(AC-3)<br>IEC60947-4-1<br>GB14048.4 |                                                             | 200-240V   | 11/15                 | 15/20   | 18.5/25 | 22/30   | 25/35   | 30/40    | 40/50    | 55/75    |
|                                                              |                                                             | 380-440V   | 18.5/25               | 22/30   | 30/40   | 37/50   | 45/60   | 55/75    | 75/100   | 90/125   |
|                                                              |                                                             | 500-550V   | 30/40                 | 37/50   | 37/50   | 45/60   | 45/60   | 75/100   | 90/125   | 110/145  |
|                                                              |                                                             | 660-690V   | 30/40                 | 37/50   | 37/50   | 45/60   | 45/60   | 75/100   | 90/125   | 100/145  |
| 额定电流<br>Rated Current A(AC-3)<br>IEC60947-4-1<br>GB14048.4   |                                                             | 200-240V   | 50                    | 60      | 75      | 90      | 110     | 125      | 165      | 175      |
|                                                              |                                                             | 380-440V   | 40                    | 50      | 65      | 80      | 95      | 115      | 150      | 170      |
|                                                              |                                                             | 500-550V   | 34                    | 39      | 42      | 49      | 59      | 100      | 120      | 125      |
|                                                              |                                                             | 660-690V   | 34                    | 39      | 42      | 49      | 59      | 100      | 120      | 125      |
| 约定发热电流Conventional Thermal Current I <sub>th</sub> :(A)      |                                                             |            | 60                    | 80      | 80      | 110     | 130     | 200      | 250      | 250      |
| 额定绝缘电压Rated Insulated Voltage U <sub>i</sub> :(V)            |                                                             |            | 690                   |         |         |         |         | 1000     |          |          |
| 辅助触头                                                         | 触头构成<br>Contact Arrangement                                 | 标准Standard | 1NO+1NC               |         |         |         |         | —        |          |          |
|                                                              |                                                             | 特殊Special  | —                     |         |         |         |         | —        |          |          |
| Auxiliary Contact                                            | 额定电流<br>Rated Current A(AC-15)<br>IEC60947-5-1<br>GB14048.5 | 200-240V   | 1.6                   |         |         |         |         | —        |          |          |
|                                                              |                                                             | 380-440V   | 0.95                  |         |         |         |         | —        |          |          |
| AC-15                                                        | 约定发热电流<br>Conventional Thermal Current I <sub>th</sub> :(A) |            | 16                    |         |         |         |         | —        |          |          |
| 电寿命 (AC-3) 百万次Electrical Life(Million Times)                 |                                                             |            | 见曲线图 Refer to Page 22 |         |         |         |         | 0.6      |          |          |
| 机械寿命 (百万次) Mechanical Life(Million Times)                    |                                                             |            | 6                     |         |         |         |         | 5        |          |          |

## 电路特性与安装接线 Circuits Characteristic and Terminal Connection

| 连接线路<br>Connection Circuits                   | 型号<br>Type                    | CJX2-40                                                          | CJX2-50 | CJX2-65 | CJX2-80 | CJX2-95 | CJX2-115     | CJX2-150 | CJX2-170 |
|-----------------------------------------------|-------------------------------|------------------------------------------------------------------|---------|---------|---------|---------|--------------|----------|----------|
| 线圈电压<br>Coil Voltage (V)                      | AC<br>50Hz/60Hz               | 24, 48, 110, 220/230, 380/400, 420/440                           |         |         |         |         |              |          |          |
| 动作特性范围<br>Acting Range                        | 吸合特性 (热态)<br>Attraction (Hot) | (85%~110%)U <sub>s</sub> ; +40°C                                 |         |         |         |         |              |          |          |
|                                               | 释放特性 (冷态)<br>Release (Cold)   | AC: (20%~75%)U <sub>s</sub> ; DC: (10%~75%)U <sub>s</sub> ; -5°C |         |         |         |         |              |          |          |
| 安装<br>Installation                            |                               | 35mm导轨、75mm导轨或螺钉 (M5) 固定<br>35mm, 75mm DIN rail or screw (M5)    |         |         |         |         |              |          |          |
| 主回路连接线<br>Control Circuit Connection          |                               | 最小/最大 截面积 (mm) <sup>2</sup><br>Min./Max. sectional area          |         |         |         |         |              |          |          |
| 不带端子软线<br>Flexible wire<br>(without terminal) | 1根导线 1wire                    | 2. 5/25                                                          | 2. 5/25 | 2. 5/25 | 4/50    | 4/50    | 10/120       |          |          |
|                                               | 2根导线 2wires                   | 2. 5/16                                                          | 2. 5/16 | 2. 5/16 | 4/25    | 4/25    | 10/120+10/50 |          |          |
| 带端子软线<br>Flexible wire<br>(with terminal)     | 1根导线 1wire                    | 2. 5/25                                                          | 2. 5/25 | 2. 5/25 | 4/50    | 4/50    | 10/120       |          |          |
|                                               | 2根导线 2wires                   | 2. 5/10                                                          | 2. 5/10 | 2. 5/10 | 4/16    | 4/16    | 10/120+10/50 |          |          |
| 不带端子的硬线<br>Hard wire<br>(without terminal)    | 1根导线 1wire                    | 2. 5/25                                                          | 2. 5/25 | 2. 5/25 | 4/50    | 4/50    | 10/120       |          |          |
|                                               | 2根导线 2wires                   | 2. 5/16                                                          | 2. 5/16 | 2. 5/16 | 4/25    | 4/25    | 10/120+10/50 |          |          |

JR28 热过载继电器

型号及其含义Type and Signification



- ① 产品代号 Product Code  
② 框架等级: 13、23、33 Current Class: 13、23、33



适用范围 Application Range

JR28-□□ 系列热过载继电器适用于交流50Hz或60Hz，电压至660V，电流至93A及以下电路，作电路和电动机的过载、断相、电动启动时间过长和堵转时间过长的保护用，有差动机构和温度补偿环节，整定电流可调，有自动或手动复位供选择，可与CJX2交流接触器装配，也可独立安装使用。

JR28-□□ series thermal overload relay is used in the power network of AC 50Hz or 60Hz,voltage up to 660V,current of 93A and below, it protects the circuit and electromotor from overload, phase loss, long starting duration, and long blocking duration. With the differential mechanism, temperature compensation ,adjustable setting current, and optional auto or manual resetting, it can be working individually or assembled with CJX2 AC contactor.

动作特性：三相负载平衡时的动作时间  
Action Characteristic:the Action Time as Three-Phase Balanced

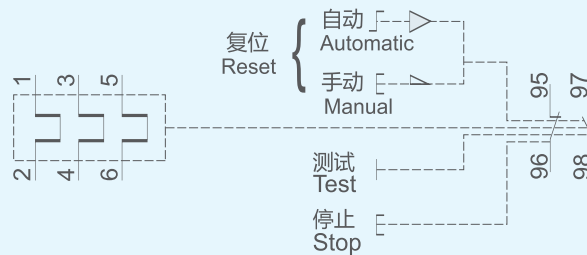
| 整定电流倍数<br>Setting current multiple | 动作时间<br>Action time | 起始条件<br>Starting condition | 环境温度<br>Ambient temperature |
|------------------------------------|---------------------|----------------------------|-----------------------------|
| 1.05                               | > 2h                | 冷态 Cold                    | 20±5℃                       |
| 1.2                                | < 2h                | 热态 Hot                     |                             |
| 1.5                                | < 2min              |                            |                             |
| 7.2                                | 2s < Tp≤10s         | 冷态 Cold                    |                             |

断相动作性能 Action Characteristic of Phase-Loss

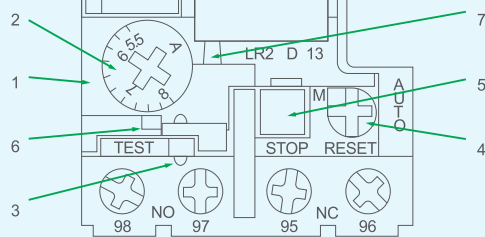
| 整定电流倍数<br>Setting current multiple |                    | 动作时间<br>Action time | 起始条件<br>Starting condition | 环境温度<br>Ambient temperature |
|------------------------------------|--------------------|---------------------|----------------------------|-----------------------------|
| 任意二相<br>Any two phase              | 第三相<br>Third phase |                     |                            |                             |
| 1.0                                | 0.9                | ≥2h                 | 冷态 Cold                    | 20±5℃                       |
| 1.15                               | 0                  | <2h                 | 热态 Hot                     |                             |

## JR28 热过载继电器

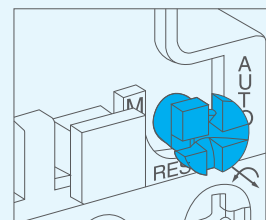
图示 Diagram



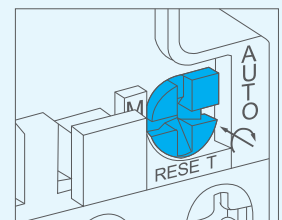
## 热过载继电器的特殊功能 Thermal Overload Relay Special Function



- 抬起透明盖1，以便进行整定和控制；
- 转动以安培为刻度单位的刻度盘2，进行调节；
- 整定后可以用盖子上的锁件3予以锁定。
- Open the transparent cover 1, to adjust and control.
- Turn around the dial which Calibration unit in Amp and adjust it.
- After finish setting, lock it with cover tools 3

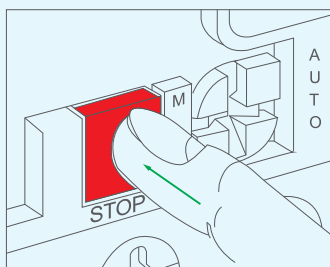


"手动复位" Manual Reset

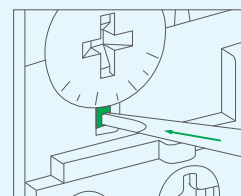


"自动复位" Automatic reset

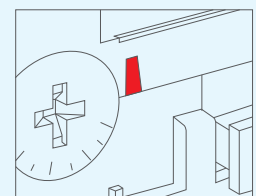
- 抬起透明盖后，复位类型可通过转动蓝色“复位”选择器4进行选择：
  - 向左转动，复位为手动
  - 按下，再向右转动，复位为自动。
 这样选择器就停在自动位置上，只有将其向左转动，才会释放回手动位置。
- 放下盖，选择器被锁定
- 按下蓝色“复位”钮可实现继电器手动复位。
- Open the transparent cover, Choose reset model by turning the blue Reset" selector 4
  - turn left, reset by manual
  - press down, then turn right, reset by automatic.
 So the selector will stop in automatic place, only turn it left, it will back to the manual place.
- Put down the cover, the selector will be locked.
- Press blue "Reset" button, the relay will take the manual reset.

"停止按钮"  
Stop Button

- 按红色“停止”钮5可实现“停止功能”；
- 按“停止”按钮：
  - 使N/C触头动作
  - 对N/O触头无影响
- Press the red "Stop" button 5 will achieve "Stop function"
- Press "Stop" button:
  - N/C in action
  - No influence to N/O



"测试按钮" Test Button



"脱扣指示器" Trip Indicator

- 用螺丝刀按“红色”测试钮6，实现“测试”功能；
- 测试”按钮可模拟继电器脱扣，并且：
  - 使N/O、N/C触头动作，
  - 使脱扣指示器7动作。
- Press red test button 6 by screwdriver, to achieve TEST function.
- Test button can simulate the relay tripping, and:
  - The N/O, N/C contact in action.
  - Make the trip indicator 7 in action.

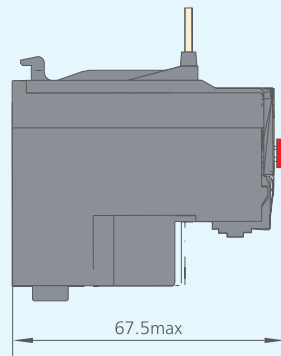
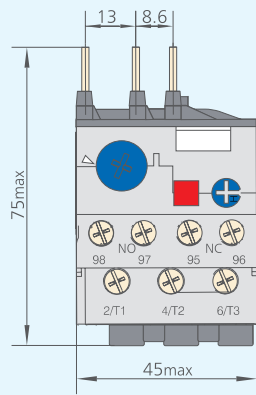
JR28 热过载继电器



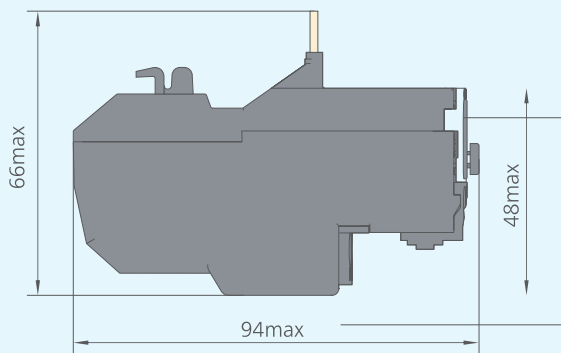
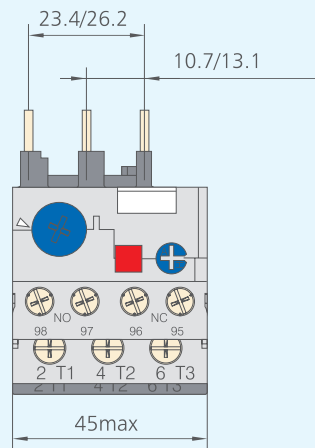
技术参数 Technical Parameters

| 型号 Type                            | JR28-K06                     |         |       | JR28-13                  |         |       |       |
|------------------------------------|------------------------------|---------|-------|--------------------------|---------|-------|-------|
| 复位方式Return Mode                    | 手动或自动复位Manual or Auto Return |         |       |                          |         |       |       |
| 电流设定范围<br>Current Setting Range    | 调整范围<br>Setting Range(A)     |         |       | 调整范围<br>Setting Range(A) |         |       |       |
|                                    | 0.1-1.6                      | 0.63-1  | 4-6   | 0.1-0.16                 | 1-1.6   | 5.5-8 | 23-32 |
|                                    | 0.16-0.25                    | 1-1.6   | 5.5-8 | 0.16-0.25                | 1.25-2  | 7-10  |       |
|                                    | 0.25-0.4                     | 1.6-2.5 | 7-10  | 0.25-0.4                 | 1.6-2.5 | 9-13  |       |
|                                    | 0.4-0.63                     | 2.5-4   | 9-13  | 0.4-0.63                 | 2.5-4   | 12-18 |       |
|                                    | 0.4-0.63                     | 2.5-4   | 9-13  | 0.63-1                   | 4-6     | 17-25 |       |
| 辅助触头构成Contact Arrangement          | 1NO+1NC                      |         |       |                          |         |       |       |
| 配套接触器 Model of Matching Contactors | CJX2-K06、K09、K12             |         |       | CJX2-09、12、18、25、32      |         |       |       |

安装尺寸示意图 Dimensions(mm)

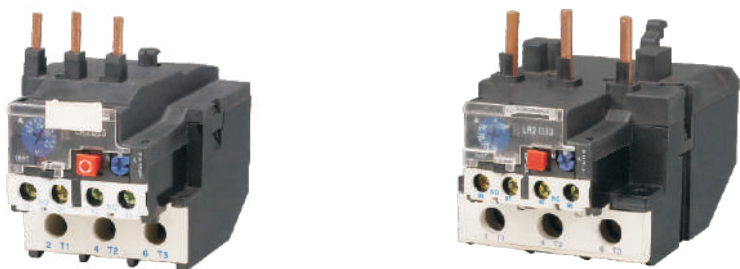


JR28-K06



JR28-13

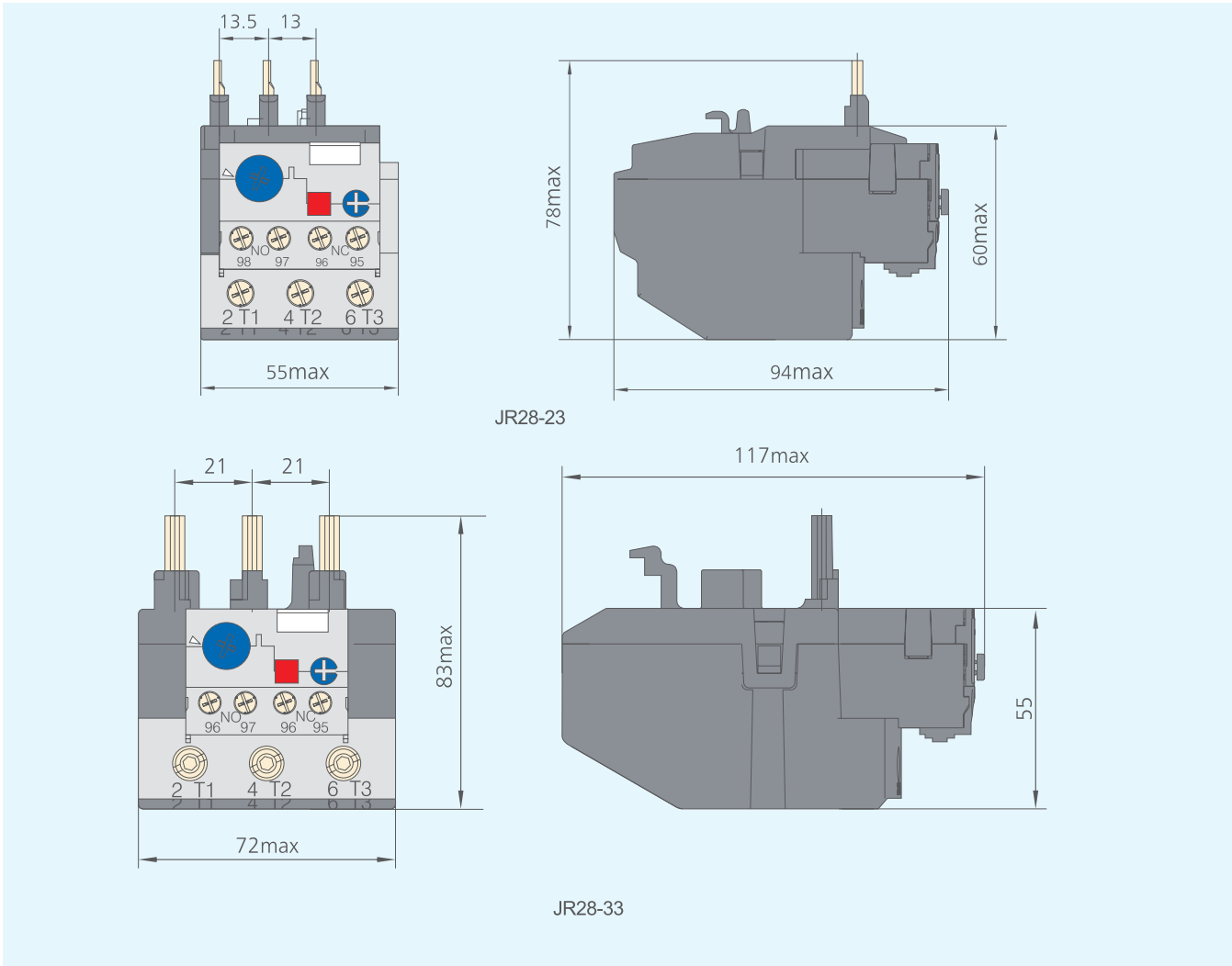
JR28 热过载继电器



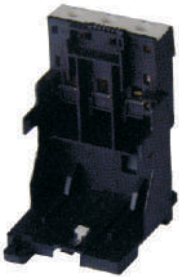
技术参数 Technical Parameters

| 型号 Type                            | JR28-23                       | JR28-33                    |
|------------------------------------|-------------------------------|----------------------------|
| 复位方式 Return Mode                   | 手动或自动复位 Manual or Auto Return |                            |
| 电流设定范围<br>Current Setting Range    | 调整范围<br>Setting Range(A)      | 调整范围<br>Setting Range(A)   |
|                                    | 23-32                         | 30-40 55-70                |
|                                    | 28-36                         | 37-50 63-80<br>48-65 80-93 |
| 辅助触头构成 Contact Arrangement         | 1NO+1NC                       |                            |
| 配套接触器 Model of Matching Contactors | CJX2-25、32                    | CJX2-40、50、65、80、95        |

安装尺寸示意图 Dimensions(mm)



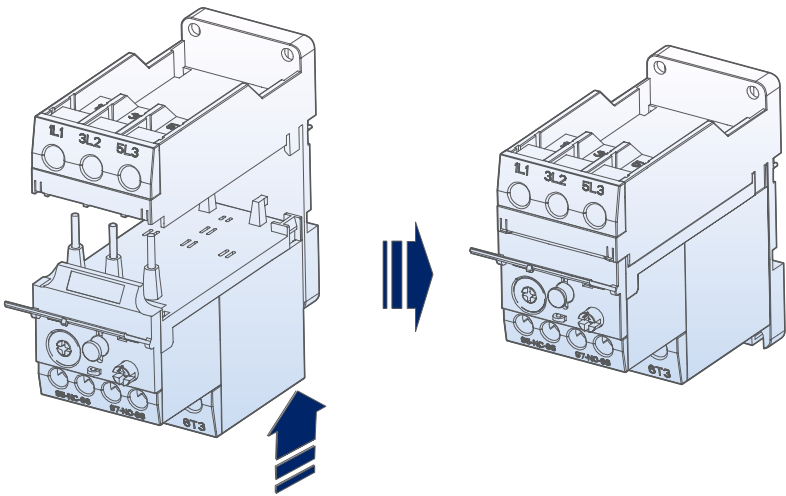
JR28 独立安装单元



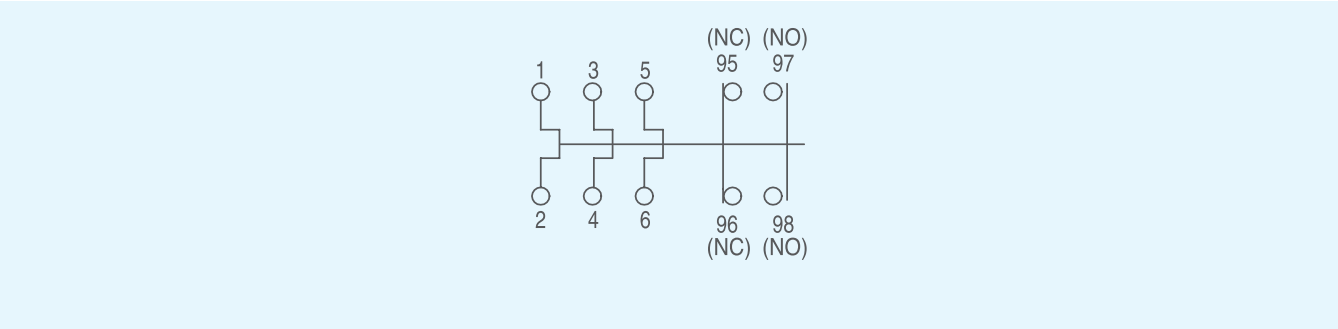
- 当热过载继电器和接触器分开时用来独立安装热过载继电器，可在35mm导轨上安装或螺钉安装。  
These accessories are used to mount the relays separately from contactors.  
It can be mounted with a 35mm DIN rail or by screw.

| 适用热过载继电器<br>Suitable Thermal Overload Relay | 型号<br>Type |
|---------------------------------------------|------------|
| JR28-13                                     | SAZ1-13    |
| JR28-23                                     | SAZ1-23    |
| JR28-33                                     | SAZ1-33    |

组合图 Combination Chart



JR28-K06/13/23/33线路图 Circuits Diagram





## CJX2-N 机械联锁接触器



### 应用范围 Applicable Range

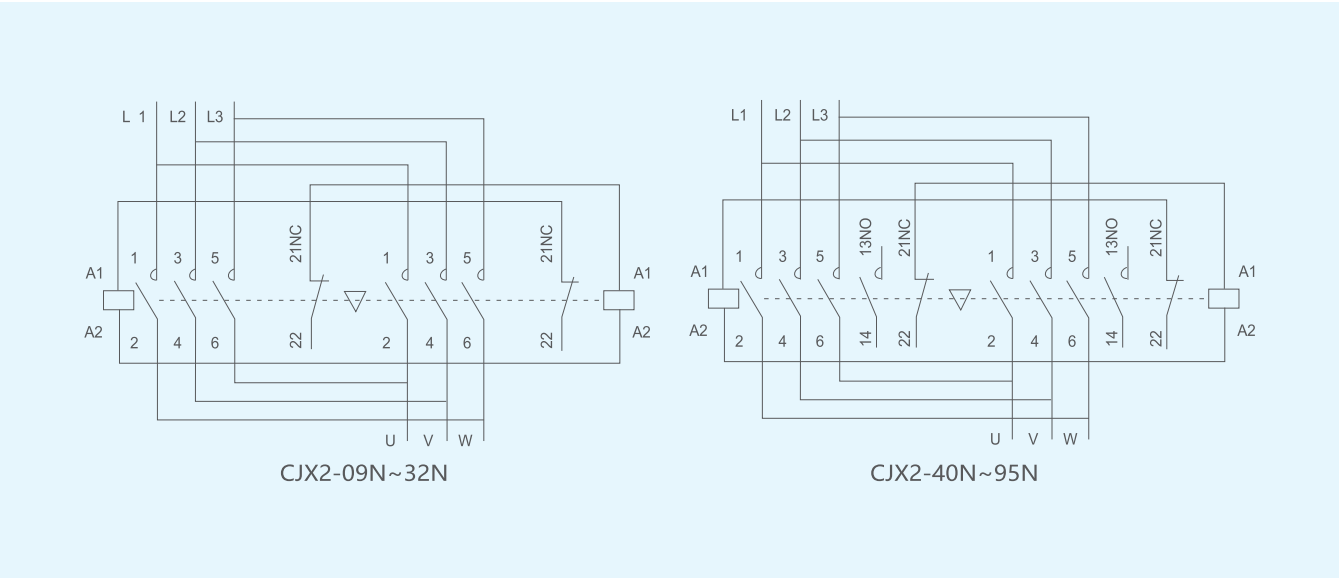
CJX2-N机械联锁接触器适用于交流50Hz或60Hz，电压至660V电力、直流电压220V，电流至95A以下的电路中，作电动机可逆控制用。它的机械联锁机构，保证了两台可逆接触器触头转换的工作可靠。

CJX2-N Reversing Contactors is suitable to use in the circuit with 50/60Hz, voltage up to 660V,DC voltage 220V rated current up to 95A for reversing control.The mechanical lock make the work reliable for reversing two contactors.

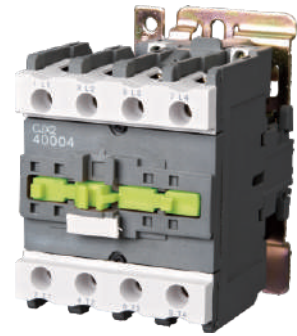
### 主要技术参数 Main Technical Parameter

| 型号<br>Type | 额定工作电流<br>Maximum Rated Current | 控制功率 (kW)<br>Controlled Power |      |      |      |      | 辅助触头数量<br>Auxiliary Contacts |
|------------|---------------------------------|-------------------------------|------|------|------|------|------------------------------|
|            | 380V,AC-3(A)                    | 220V                          | 380V | 415V | 440V | 660V |                              |
| CJX2-09N   | 9                               | 2.2                           | 4    | 4    | 4    | 5.5  | 可选Optional                   |
| CJX2-12N   | 12                              | 5.5                           | 5.5  | 5.5  | 5.5  | 7.5  | 可选Optional                   |
| CJX2-18N   | 18                              | 7.5                           | 7.5  | 9    | 9    | 11   | 可选Optional                   |
| CJX2-25N   | 25                              | 5.5                           | 11   | 11   | 11   | 15   | 可选Optional                   |
| CJX2-32N   | 32                              | 7.5                           | 15   | 15   | 15   | 18.5 | 可选Optional                   |
| CJX2-40N   | 40                              | 18.5                          | 18.5 | 22   | 22   | 30   | 可选Optional                   |
| CJX2-50N   | 50                              | 15                            | 22   | 25   | 30   | 33   | 可选Optional                   |
| CJX2-65N   | 65                              | 18.5                          | 30   | 37   | 37   | 37   | 可选Optional                   |
| CJX2-80N   | 80                              | 22                            | 37   | 45   | 45   | 45   | 可选Optional                   |
| CJX2-95N   | 95                              | 22                            | 45   | 45   | 45   | 45   | 可选Optional                   |

### 线路图 Circuits Diagram



## CJX2-四极交流接触器

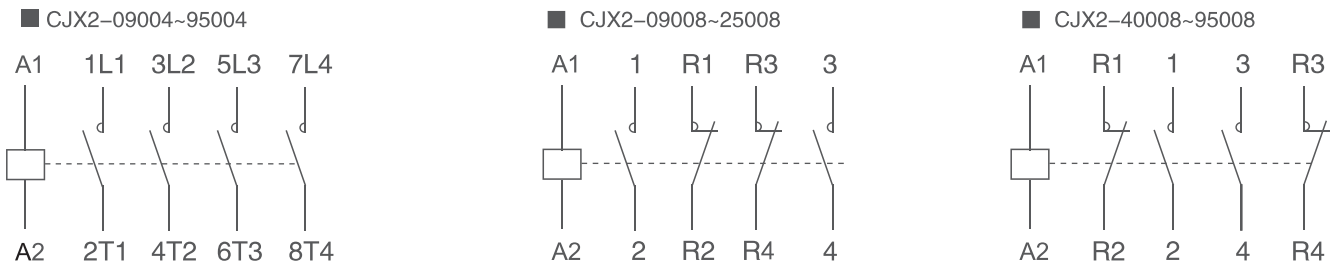


## 主要技术参数 Main Technical Parameter

| 型号 Type                                          |                        |                         | 4NO                     | CJX2-09004 | CJX2-12004 | CJX2-25004 | CJX2-40004 | CJX2-50004 | CJX2-65004 | CJX2-80004 | CJX2-95004 |
|--------------------------------------------------|------------------------|-------------------------|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
|                                                  |                        |                         | 2NO+2NC                 | CJX2-09008 | CJX2-12008 | CJX2-25008 | CJX2-40008 | CJX2-50008 | CJX2-65008 | CJX2-80008 | CJX2-95008 |
| 主电路 Main circuit                                 |                        |                         |                         |            |            |            |            |            |            |            |            |
| 极数 Pole                                          |                        |                         | 4极/4P                   |            |            |            |            |            |            |            |            |
| 额定绝缘电压(Ui)<br>Rated Insulated Voltage(V)         |                        |                         | V                       | 690        |            |            |            |            |            |            |            |
| 额定工作电压(Ue)<br>Rated Operating Voltage(V)         |                        |                         | V                       | 690        |            |            |            |            |            |            |            |
| 约定发热电流(Ith)<br>Stipulated Heating Current(A)     |                        |                         |                         | 25         | 25         | 40         | 60         | 80         | 80         | 125        | 125        |
| 额定工作电流<br>Rated Working Current(A)               | AC-3,380/400V          | A                       | 9                       | 12         | 25         | 40         | 50         | 65         | 80         | 95         |            |
|                                                  | AC-3,660/690V          | A                       | 6.6                     | 8.9        | 18.0       | 34.0       | 39.0       | 42.0       | 49.0       | 49.0       |            |
|                                                  | AC-4,380/400V          | A                       | 3.3                     | 5.0        | 8.5        | 18.5       | 24.0       | 28.0       | 37.0       | 44.0       |            |
|                                                  | AC-4,660/690V          | A                       | 1.5                     | 2.0        | 4.4        | 9.0        | 12.0       | 14.0       | 17.3       | 21.3       |            |
| 额定工作功率(Pe)<br>Rated Power kW/HP(AC-3)            | AC-3,380/400V          | kw                      | 4.0                     | 5.5        | 11.0       | 18.5       | 22.0       | 30         | 37.0       | 45.0       |            |
|                                                  | AC-3,660/690V          | kw                      | 5.5                     | 7.5        | 15.0       | 30.0       | 33.0       | 37.0       | 45.0       | 45.0       |            |
|                                                  | AC-4,380/400V          | kw                      | 1.2                     | 2.2        | 4          | 7.5        | 11.0       | 15.0       | 18.5       | 22.0       |            |
|                                                  | AC-4,660/690V          | kw                      | 1.1                     | 1.5        | 4.0        | 7.5        | 11.0       | 11.0       | 15.0       | 18.5       |            |
| 机械寿命<br>Mechanical Life                          |                        |                         | 万次<br>10 thousand times | 1000       |            |            | 800        |            |            | 600        |            |
| 电气寿命<br>Electrical Life                          | AC-3                   | 万次<br>10 thousand times | 100                     |            |            | 80         |            |            | 60         |            |            |
|                                                  | AC-4                   | 万次<br>10 thousand times | 20                      |            |            | 15         |            |            | 10         |            |            |
| 操作频率<br>Operational Frequency                    | AC-3                   | 次/时<br>times/hour       | 1200                    |            |            | 600        |            |            |            |            |            |
|                                                  | AC-4                   | 次/时<br>times/hour       | 300                     |            |            | 300        |            |            |            |            |            |
| 配用熔断器型号<br>Equipped With Fuse Protctor           |                        |                         |                         | RT16-25    | RT16-25    | RT16-50    | RT16-63    | RT16-80    | RT16-80    | RT16-125   | RT16-125   |
| 接线能力 Connection capacity                         |                        |                         | mm <sup>2</sup>         | 1.5        | 1.5        | 4          | 10         | 16         | 16         | 25         | 35         |
| 线圈 Coil                                          |                        |                         |                         |            |            |            |            |            |            |            |            |
| 额定控制电路电压(Us)<br>Rated control circuit voltage    | 50Hz                   | V                       | 24、36、110、220、380       |            |            |            |            |            |            |            |            |
|                                                  | 50/60Hz                | V                       | 24、36、110、220、380       |            |            |            |            |            |            |            |            |
| 允许控制回路电压(Us)<br>Allowed control circuit voltage  | 运行<br>Operation        | V                       | 85%~110% Us             |            |            |            |            |            |            |            |            |
|                                                  | 释放<br>Release<br>OFF   | V                       | 20%~75% Us              |            |            |            |            |            |            |            |            |
| 线圈功耗                                             | 吸合<br>Attraction<br>ON | VA                      | 70                      |            | 110        |            | 200        |            |            |            |            |
|                                                  | 保持<br>Keep             | VA                      | 9                       |            | 11         |            | 24         |            |            |            |            |
| Coil power dissipation                           |                        | Power<br>dissipation W  | 2.7                     |            | 4          |            | 10         |            |            |            |            |
| 端子接线能力 Connection capacity of wiring terminal    |                        |                         |                         |            |            |            |            |            |            |            |            |
| 软线 不带接线端子<br>Flexible wire<br>(without terminal) | 1根导线<br>1 wire         | mm <sup>2</sup>         | 1…4                     |            | 1.5…6      |            | 2.5…25     |            |            | 4…50       |            |
|                                                  | 2根导线<br>2 wires        | mm <sup>2</sup>         | 1…4                     |            | 1.5…6      |            | 2.5…16     |            |            | 4…25       |            |
| 软线 带接线端子<br>Flexible wire<br>(with terminal)     | 1根导线<br>1 wire         | mm <sup>2</sup>         | 1…4                     |            | 1…6        |            | 2.5…25     |            |            | 4…50       |            |
|                                                  | 2根导线<br>2 wires        | mm <sup>2</sup>         | 1…2.5                   |            | 1…4        |            | 2.5…10     |            |            | 4…16       |            |
| 硬线 不带接线端子<br>Stiff cable<br>(without terminal)   | 1根导线<br>1 wire         | mm <sup>2</sup>         | 1…4                     |            | 1.5…6      |            | 2.5…25     |            |            | 4…50       |            |
|                                                  | 2根导线<br>2 wires        | mm <sup>2</sup>         | 1…4                     |            | 1.5…6      |            | 2.5…10     |            |            | 4…25       |            |

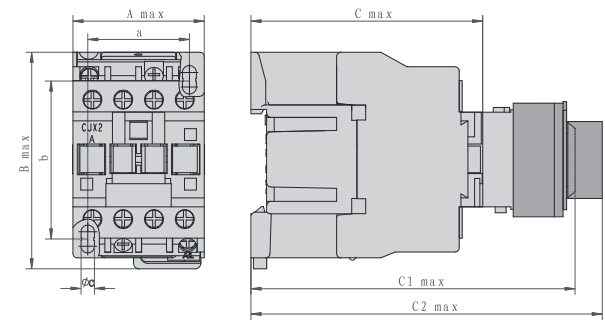
安装尺寸示意图

线路图Circuits Diagram

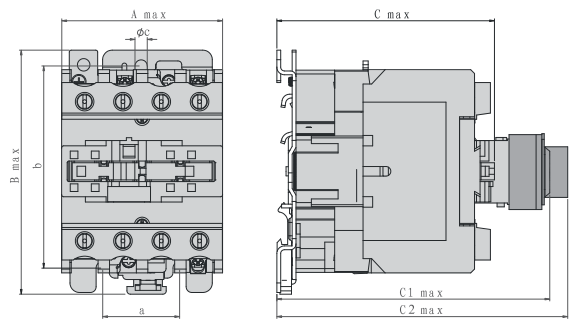


外形及安装尺寸Outline and Installation Dimensions

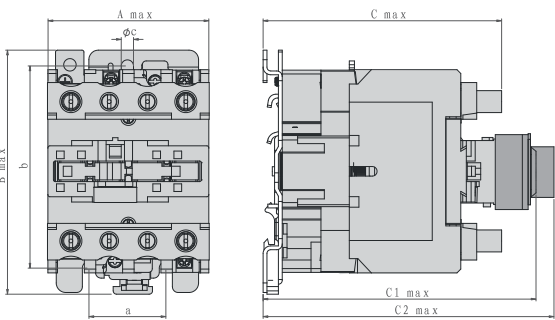
■ CJX2-09004~25004、CJX2-09008~25008



■ CJX2-40004~95004



■ CJX2-40008~95008



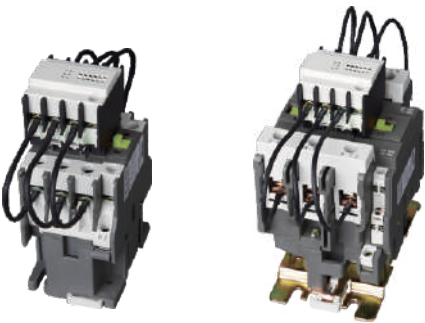
单位: mm

| 型号Type                       | A max | B max | C max | C1 max | C2 max | a  | b       | c   |
|------------------------------|-------|-------|-------|--------|--------|----|---------|-----|
| CJX2-09004、09008、12004、12008 | 47    | 76    | 82    | 115    | 134    | 35 | 50/60   | 4.5 |
| CJX2-25004、25008             | 58    | 86    | 96    | 130    | 149    | 40 | 50/60   | 4.5 |
| CJX2-40004、50004、65004       | 85    | 128   | 116   | 149    | 168    | 40 | 100/110 | 6.5 |
| CJX2-40008、50008、65008       | 85    | 128   | 126   | 149    | 168    | 40 | 100/110 | 6.5 |
| CJX2-80004、95004             | 96    | 128   | 127   | 160    | 179    | 40 | 100/110 | 6.5 |
| CJX2-80008、95008             | 96    | 128   | 136   | 160    | 179    | 40 | 100/110 | 6.5 |

注: C1max——接触器 + F4; C2max——接触器 + LA2

Note: C1max – contactor + F4, C2max – contactor + LA2

CJ19 切换电容器接触器



应用范围 Applicable Range

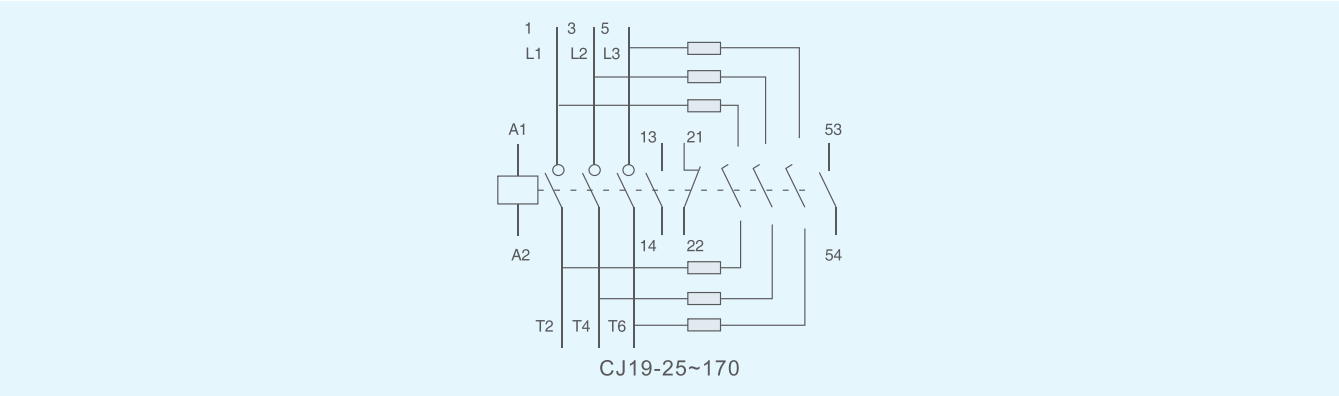
CJ19 系列切换电容器接触器适用于交流50H或60Hz，电压至400V电力线路中，供低压无功功率补偿电路中投入或切换低压电力电容器控制设备使用。接触器带有抑制涌流装置，能有效地减少合闸涌流对电容器的冲击和抑制断时的过电压。

CJ19 switching capacitor type contactor is used in power network of AC 50Hz or 60Hz,voltage up to 400V,for operating or switching LV capacitor control device in LV reactive power circuit.With antisurge device,it can reduce impact of closing surge and prevent from overload as breaking.

主要技术参数 Main Technical Parameter

| 参数Parameter                                                      | 型号Type | CJ19-25          | CJ19-32 | CJ19-43 | CJ19-63 | CJ19-95    | CJ19-115   | CJ19-150  | CJ19-170  |
|------------------------------------------------------------------|--------|------------------|---------|---------|---------|------------|------------|-----------|-----------|
| 可控电容器容量<br>Controllable Capacitor Capacity (Kvar)                | 220V   | 6                | 9       | 10      | 15      | 28.8(240V) | 34.5(240V) | 46(240V)  | 52(240V)  |
|                                                                  | 380V   | 12               | 18      | 20      | 30      | 50(400V)   | 60(400V)   | 80(400V)  | 90(400V)  |
| 额定绝缘电压<br>Rated Insulated Voltage(V)                             |        | 500              |         |         |         |            | 690        |           |           |
| 额定工作电压<br>Rated Operating Voltage(V)                             |        | 220/240, 380/400 |         |         |         |            |            |           |           |
| 约定发热电流<br>Stipulated Heating Current(A)                          |        | 25               | 32      | 43      | 63      | 95         | 200        | 200       | 275       |
| 额定工作电流AC-6b 400V A<br>Rated Working Current AC-6b and 400V A     |        | 17               | 23      | 29      | 43      | 72.2(400V) | 87(400V)   | 115(400V) | 130(400V) |
| 抑制电容器合闸涌流的能力<br>Prevention Capacity on Closing Surge             |        | 20Ie             |         |         |         |            |            |           |           |
| 控制电源电压(V)<br>Control Supply Voltage                              |        | 110,127,220,380  |         |         |         |            |            |           |           |
| 辅助触头、约定发热电流(A)<br>Auxiliary Contacts, Stipulated Heating Current |        | 10               |         |         |         |            |            |           |           |
| 最高操作频率(次/小时)<br>Highest Operating Frequency(Time/Hour)           |        | 120              |         |         |         |            |            |           |           |
| 电寿命<br>Electrical Life(10 <sup>4</sup> times)                    |        | 10               |         |         |         |            | 2          |           |           |
| 机械寿命<br>Mechanical Life(10 <sup>4</sup> times)                   |        | 100              |         |         |         |            | 20         |           |           |

线路图 Circuits Diagram



## CJX2-Z 直流接触器



### 应用范围 Applicable Range

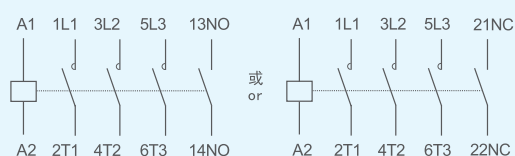
CJX2-Z系列直流接触器，适用于电压至DC550V以下直流电路中，作为接通和分断电路负载之用，能够充分满足电力机车，内燃机车和电动车组，电路控制系统的特殊要求。广泛适用于直流电力控制，蓄电池回路，电容回路等控制系统中。

CJX2-Z DC Contactor is mainly used in the DC control circuit under DC550V. It works as to connect and break off the circuit load, which can fully meet the special demand of electric locomotive, diesel locomotive and electric motor car group. It is widely used in the control system of DC electric control, storage battery circuit and capacitance circuit.

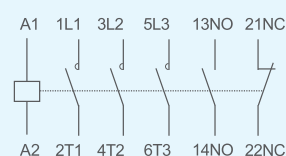
### 主要技术参数 Main Technical Parameter

| 型号Type                                                          |          | CJX2-09Z | CJX2-12Z | CJX2-18Z | CJX2-25Z | CJX2-32Z | CJX2-40Z | CJX2-50Z | CJX2-65Z | CJX2-80Z | CJX2-95Z |
|-----------------------------------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 额定功率<br>Rated Power<br>kW/HP(AC-3)<br>IEC60947-4-1<br>GB14048.4 | 200-240V | 2.2/3    | 3/4      | 4/5.5    | 5.5/7.5  | 7.5/10   | 11/15    | 15/20    | 18.5/25  | 22/30    | 25/35    |
|                                                                 | 380-440V | 4/5.5    | 5.5/7.5  | 7.5/10   | 11/15    | 15/20    | 18.5/25  | 22/30    | 30/40    | 37/50    | 45/60    |
|                                                                 | 500-550V | 5/7      | 7.5/10   | 9/12     | 1/20     | 18.5/25  | 30/40    | 37/50    | 37/50    | 45/60    | 45/60    |
|                                                                 | 660-690V | 5.5/7.5  | 7.5/10   | 10/13.5  | 15/20    | 18.5/25  | 30/40    | 37/50    | 37/50    | 45/60    | 45/60    |
| 约定发热电流<br>Conventional Thermal Current I <sub>th</sub> :(A)     |          | 25       | 25       | 32       | 40       | 50       | 60       | 80       | 80       | 110      | 130      |

### 线路图 Circuits Diagram



CJX2-09Z~32Z



CJX2-40Z~95Z

JZC4 接触器式继电器



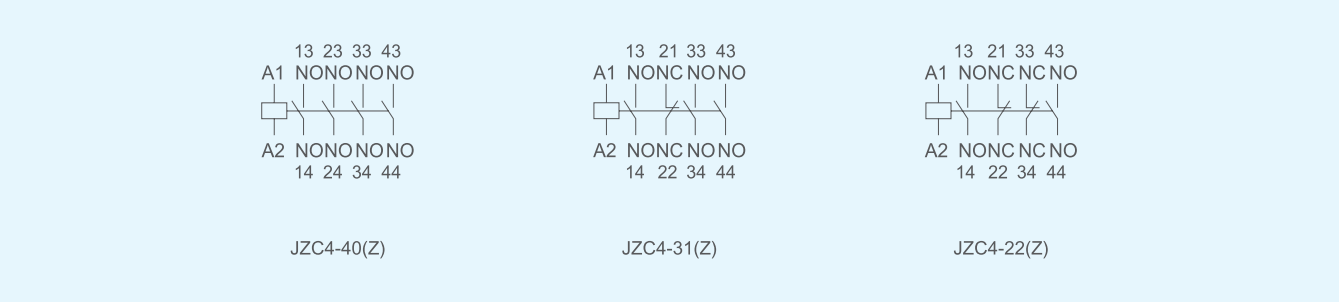
应用范围 Applicable Range

JZC4系列接触器式继电器主要用在交流/直流的控制电路中，控制各种电磁回路,增强信号和传输信号。  
产品符合 GB14048. IEC60947-4-1标准。  
JZC4 series contactor relays are mainly used in AC/DC control circuits to control various electromagnetic circuits, enhance signals and transmit signals.  
The product conforms to the GB14048.4, IEC60947-4-1 standards.

主要技术参数 Main Technical Parameter

| 型号Type<br>参数 Parameter                                 | 交流<br>AC | JZC4-40  | JZC4-31  | JZC4-22  |
|--------------------------------------------------------|----------|----------|----------|----------|
|                                                        | 直流<br>DC | JZC4-40Z | JZC4-31Z | JZC4-22Z |
| 触头构成<br>Contacts Arrangement                           |          | 4NO      | 3NO+1NC  | 2NO+2NC  |
| 额定绝缘电压<br>Rated Insulated Voltage(V)                   |          | 690      |          |          |
| 约定发热电流<br>Stipulated Heating Current(A)                |          | 10       |          |          |
| 额定工作电流<br>Rated Operating cCurrent(A)                  |          | 6        |          |          |
| 电寿命<br>Electrical Life(Milliom Time)                   |          | 1        |          |          |
| 机械寿命<br>Mechanical Life(Milliom Time)                  |          | 8        |          |          |
| 最高操作频率(次/小时)<br>Highest Operating Frequency(Time/Hour) |          | 2/S      |          |          |

线路图 Circuits Diagram

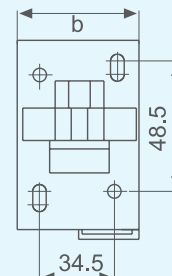
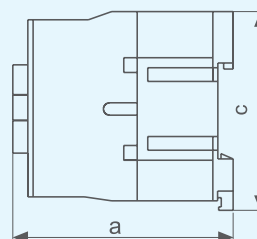


# 安装尺寸示意图

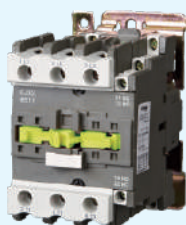
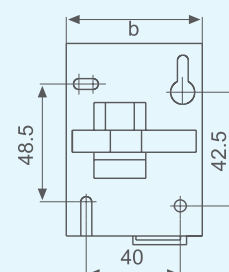
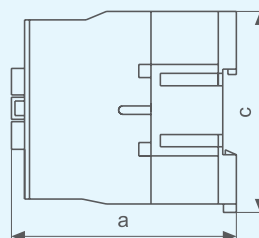
## CJX2-(Z)交(直)流接触器 AC (DC) Contactor



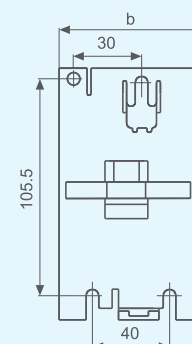
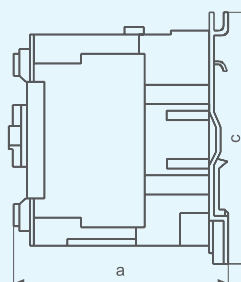
| 型号 Type    | a       | b  | c  |
|------------|---------|----|----|
| CJX2-09(Z) | 82(116) | 47 | 76 |
| CJX2-12(Z) | 82(116) | 47 | 76 |
| CJX2-18(Z) | 87(122) | 47 | 76 |



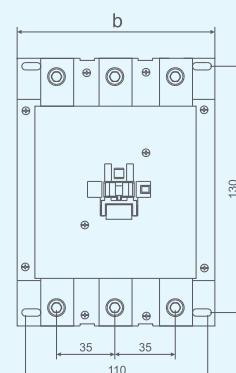
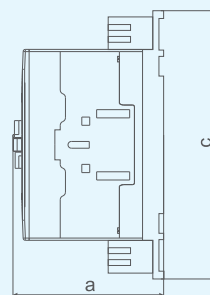
| 型号 Type    | a        | b  | c  |
|------------|----------|----|----|
| CJX2-25(Z) | 95(131)  | 57 | 86 |
| CJX2-32(Z) | 100(138) | 57 | 86 |



| 型号 Type    | a        | b  | c   |
|------------|----------|----|-----|
| CJX2-40(Z) | 116(173) | 77 | 129 |
| CJX2-50(Z) | 116(173) | 77 | 129 |
| CJX2-65(Z) | 116(173) | 77 | 129 |
| CJX2-80(Z) | 127(188) | 87 | 129 |
| CJX2-95(Z) | 127(188) | 87 | 129 |



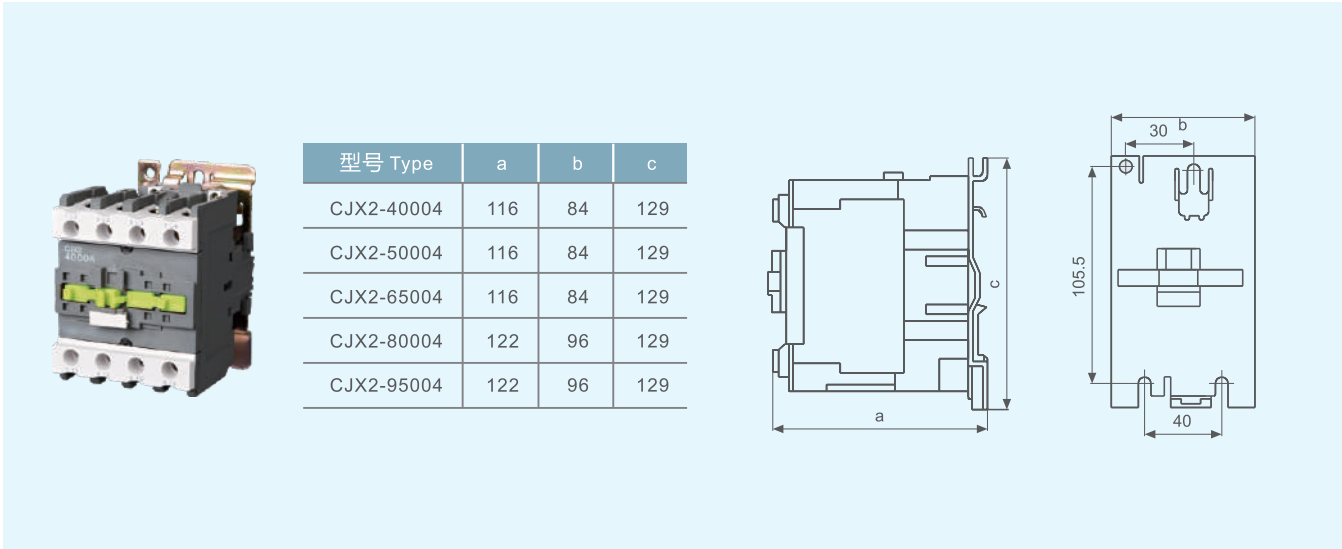
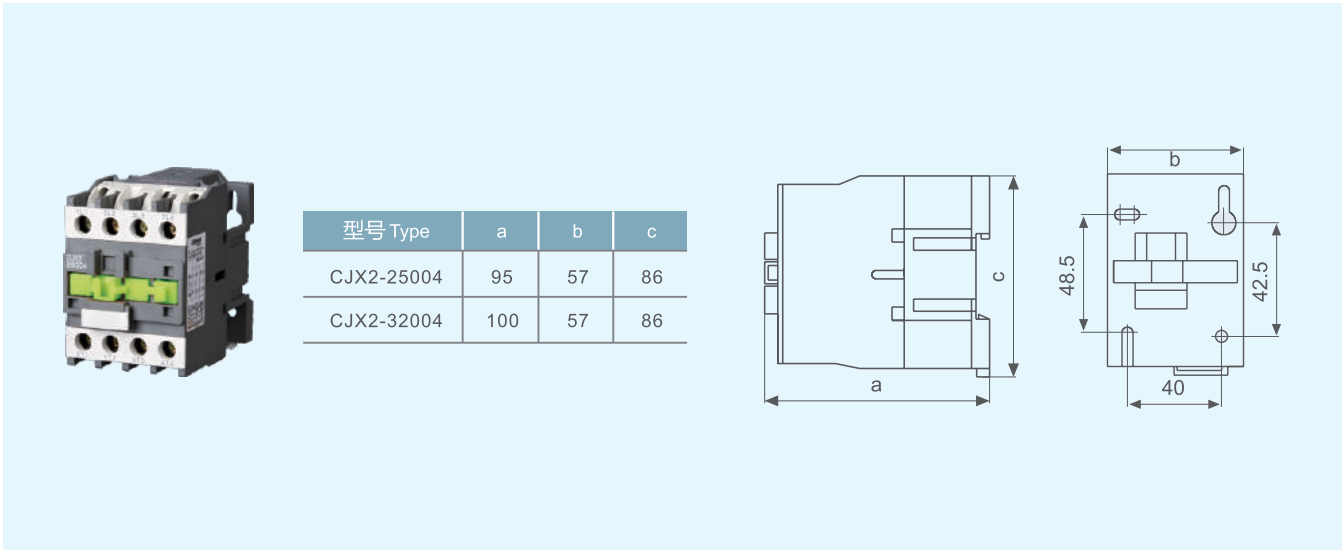
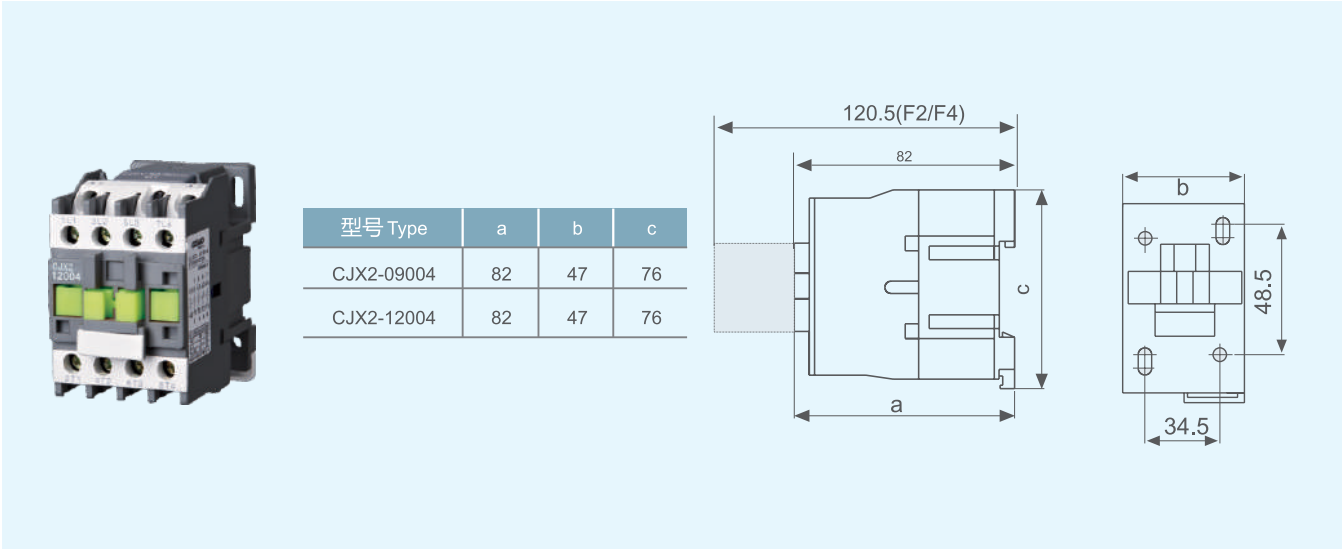
| 型号 Type  | a   | b   | c   |
|----------|-----|-----|-----|
| CJX2-115 | 118 | 120 | 154 |
| CJX2-150 | 118 | 120 | 154 |





安装尺寸示意图

CJX2系列四极交流接触器 AC Contactor 4-Pole

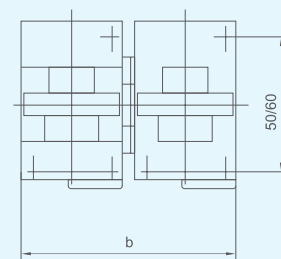
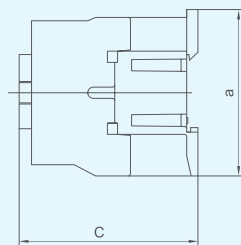


## 安装尺寸示意图

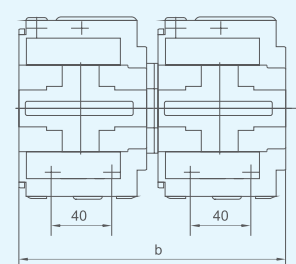
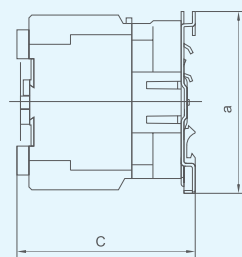
## CJX2-N机械联锁接触器 Reversing Contactors



| 型号 Type  | a  | b   | c   |
|----------|----|-----|-----|
| CJX2-9N  | 78 | 105 | 82  |
| CJX2-12N | 78 | 105 | 82  |
| CJX2-18N | 78 | 105 | 87  |
| CJX2-25N | 90 | 125 | 95  |
| CJX2-32N | 90 | 125 | 100 |



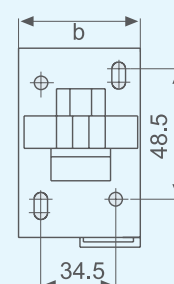
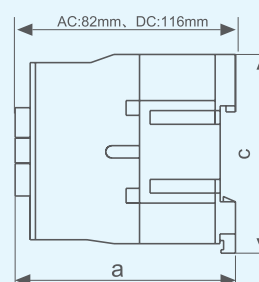
| 型号 Type  | a   | b   | c   |
|----------|-----|-----|-----|
| CJX2-40N | 129 | 165 | 116 |
| CJX2-50N | 129 | 165 | 116 |
| CJX2-65N | 129 | 165 | 116 |
| CJX2-80N | 129 | 185 | 127 |
| CJX2-95N | 129 | 185 | 127 |



## JZC4接触器式继电器



| 型号 Type    | a (DC)  | b  | c  |
|------------|---------|----|----|
| JZC4-22(Z) | 82(116) | 47 | 76 |
| JZC4-31(Z) | 82(116) | 47 | 76 |
| JZC4-40(Z) | 82(116) | 47 | 76 |

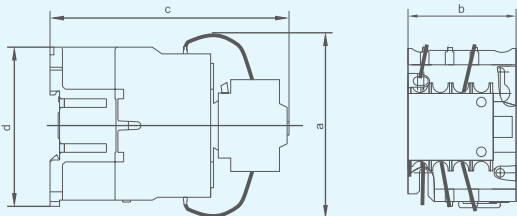


安装尺寸示意图

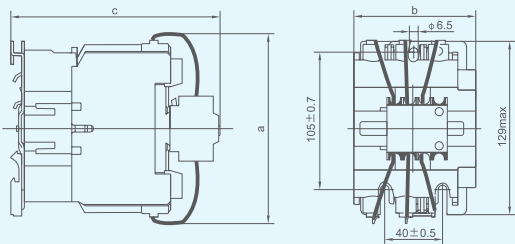
CJ19切换电容器接触器 Capacitor Contactors



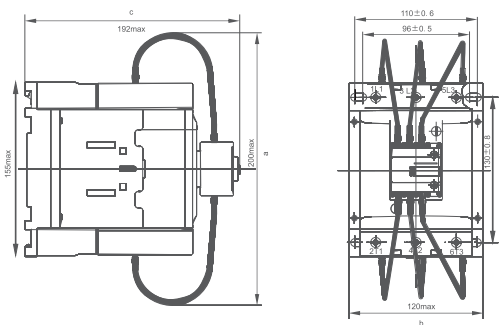
| 型号 Type | a  | b  | c   | d  |
|---------|----|----|-----|----|
| CJ19-25 | 80 | 47 | 124 | 76 |
| CJ19-32 | 90 | 58 | 132 | 86 |
| CJ19-43 | 90 | 58 | 136 | 86 |



| 型号 Type | a   | b  | c   |
|---------|-----|----|-----|
| CJ19-63 | 132 | 79 | 150 |
| CJ19-95 | 135 | 87 | 158 |



| 型号 Type  | a   | b   | c   |
|----------|-----|-----|-----|
| CJ19-115 | 200 | 120 | 192 |
| CJ19-150 | 200 | 120 | 192 |
| CJ19-170 | 200 | 120 | 192 |



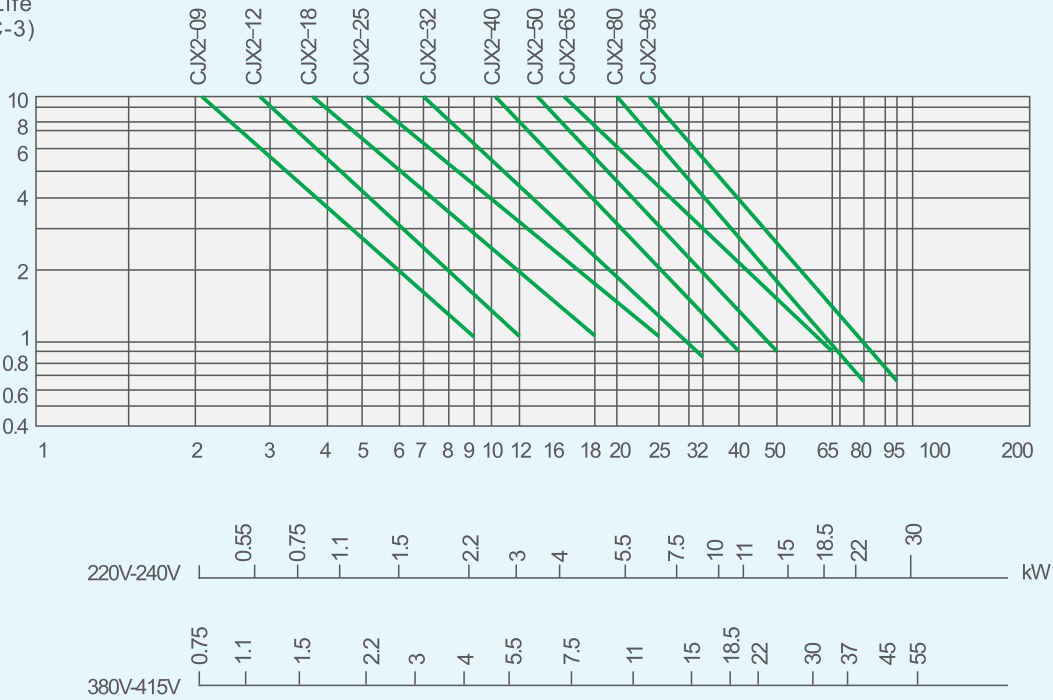
接线与安装 Wiring and Installation

- 接线端子由绝缘罩覆盖，安装操作是安全可靠。
- CJ19-25~43，除螺丝安装外，还可用35mm导轨安装。
- CJ19-63~95，除螺丝安装外，还可用35mm及75mm导轨安装。
- CJ19-115~170，除螺丝安装外，还可用两根35mm导轨安装。
- The connection terminals are protected through insulation cover, which is reliable and secure for installation and operation.
- For CJ19-25~43, not only fixed by screws but also could be fixed with 35mm DIN rail.
- For CJ19-63~95, not only fixed by screws but also could be fixed with 35mm and 75mm DIN rail.
- For CJ19-115~170, screws are available for installation, as well as two 35mm DIN rail.

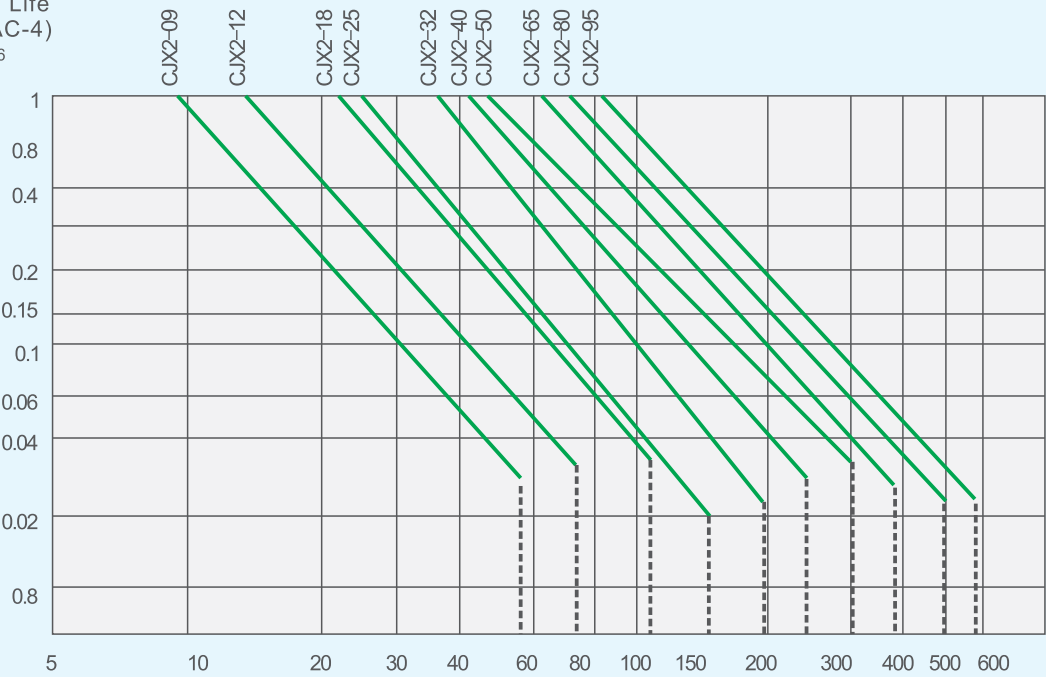
电气寿命曲线图

CJX2-09~95

Electrical Life  
Curves (AC-3)  
 $\times 10^6$



Electrical Life  
Curves (AC-4)  
 $\times 10^6$



## CJX2-F 大容量接触器



## 技术参数 Technical Parameters

| 型号 Type                                           |                                                       | CJX2-F115                            | CJX2-F150      | CJX2-F185      | CJX2-F225      | CJX2-F265      | CJX2-F330      |
|---------------------------------------------------|-------------------------------------------------------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| 额定工作电流<br>Rated Current                           | Ie max AC-3<br>(Ue≤440V)                              | 115A                                 | 150A           | 185A           | 225A           | 265A           | 330A           |
|                                                   | Ie max AC-1<br>(θ ≤40°C)                              | 200A                                 | 250A           | 275A           | 315A           | 350A           | 400A           |
| 主触头数(常开)<br>Main Contacts(NO)                     |                                                       | 3、4                                  | 3、4            | 3、4            | 3、4            | 2、3、4          | 2、3、4          |
| 额定绝缘电压(Ui)<br>Rated Insulated Voltage             |                                                       | 1000V                                | 1000V          | 1000V          | 1000V          | 1000V          | 1000V          |
| 额定冲击耐受电压(Uimp)<br>Rated Impulse Withstand Voltage |                                                       | 8kV                                  | 8kV            | 8kV            | 8kV            | 8kV            | 8kV            |
| 额定工作电压(Ue)max<br>Rated Operational Voltage        |                                                       | 1000V                                | 1000V          | 1000V          | 1000V          | 1000V          | 1000V          |
| 符合标准<br>Standards-compliant                       |                                                       | IEC60947-4-1, GB14048.4, EN60947-4-1 |                |                |                |                |                |
| 约定发热电流Ith(θ≤40°C)<br>Conventional Thermal Current |                                                       | 200A                                 | 250A           | 275A           | 315A           | 350A           | 400A           |
| 操作频率(次/h)<br>Operation Frequency                  | AC-1, AC-2, AC-3                                      | 1200                                 | 1200           | 1200           | 1200           | 1200           | 600            |
|                                                   | AC-4                                                  | 300A                                 | 300A           | 300A           | 300A           | 300A           | 300A           |
| 额定功率AC-3类别<br>Rated Power (AC-3)                  | 220/240V                                              | 30kW                                 | 40kW           | 55kW           | 63kW           | 75kW           | 100kW          |
|                                                   | 380/400V                                              | 55kW                                 | 75kW           | 90kW           | 110kW          | 132kW          | 160kW          |
|                                                   | 415V                                                  | 59kW                                 | 80kW           | 100kW          | 110kW          | 140kW          | 180kW          |
|                                                   | 440V                                                  | 59kW                                 | 80kW           | 100kW          | 110kW          | 140kW          | 200kW          |
|                                                   | 500V                                                  | 75kW                                 | 90kW           | 110kW          | 129kW          | 160kW          | 200kW          |
|                                                   | 660/690V                                              | 80kW                                 | 100kW          | 110kW          | 129kW          | 160kW          | 220kW          |
|                                                   | 1000V                                                 | 65kW                                 | 65kW           | 100kW          | 100kW          | 147kW          | 160kW          |
| 连接/配线<br>Connection /Wiring                       | 线排数Number of Lines<br>线排尺寸Line Size(mm <sup>2</sup> ) | 2<br>20×3                            | 2<br>25×3      | 2<br>25×3      | 2<br>32×3      | 2<br>32×4      | 2<br>30×5      |
|                                                   | 带有接片的线缆(mm <sup>2</sup> )<br>Cable with Splicing      | 95                                   | 120            | 150            | 185            | 240            | 240            |
|                                                   | 带有连接器线缆(mm <sup>2</sup> )<br>Cable with Connector     | 95                                   | 120            | 150            | 185            | 240            | —              |
|                                                   | 螺钉直径<br>Screw Diameter                                | Φ6                                   | Φ8             | Φ8             | Φ10            | Φ10            | Φ10            |
| 动作电压<br>Operation Voltage<br>( ≤55°C)             |                                                       |                                      |                |                |                |                |                |
| 紧固扭矩(N.m)<br>Tightening Torque                    |                                                       | 10                                   | 18             | 18             | 35             | 35             | 35             |
| 配用的熔断器(SCPD)<br>Equipped With Fuse Protector      | 型号<br>Type                                            | RT16-2<br>250A                       | RT16-2<br>355A | RT16-3<br>425A | RT16-3<br>500A | RT16-3<br>630A | RT16-3<br>800A |

## CJX2-F 大容量接触器



## 技术参数 Technical Parameters

| 型号 Type                                                                 |                                                       | CJX2-F400                            | CJX2-F500       | CJX2-F630       | CJX2-F780       | CJX2-F800       |
|-------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 额定工作电流<br>Rated Current                                                 | le max AC-3<br>( $U_e \leq 440V$ )                    | 400A                                 | 500A            | 630A            | 780A            | 800A            |
|                                                                         | le max AC-1<br>( $\theta \leq 40^\circ C$ )           | 500A                                 | 700A            | 1000A           | 1600A           | 1000A           |
| 主触头数(常开)<br>Main Contacts(NO)                                           |                                                       | 2、3、4                                | 2、3、4           | 2、3、4           | 2、3、4           | 3               |
| 额定绝缘电压( $U_i$ )<br>Rated Insulated Voltage                              |                                                       | 1000V                                | 1000V           | 1000V           | 1000V           | 1000V           |
| 额定冲击耐受电压( $U_{imp}$ )<br>Rated Impulse Withstand Voltage                |                                                       | 8kV                                  | 8kV             | 8kV             | 8kV             | 8kV             |
| 额定工作电压( $U_e$ )max<br>Rated Operational Voltage                         |                                                       | 1000V                                | 1000V           | 1000V           | 1000V           | 1000V           |
| 符合标准<br>Standards-compliant                                             |                                                       | IEC60947-4-1, GB14048.4, EN60947-4-1 |                 |                 |                 |                 |
| 约定发热电流 $I_{th}(\theta \leq 40^\circ C)$<br>Conventional Thermal Current |                                                       | 500A                                 | 700A            | 1000A           | 1600A           | 1000A           |
| 操作频率(次/h)<br>Operation Frequency                                        | AC-1, AC-2, AC-3                                      | 600                                  | 600             | 600             | 600             | 600             |
|                                                                         | AC-4                                                  | 300                                  | 300             | 300             | 300             | 300             |
| 额定功率AC-3类别<br>Rated Power (AC-3)                                        | 220/240V                                              | 110kW                                | 147kW           | 200kW           | 220kW           | 220kW           |
|                                                                         | 380/400V                                              | 200kW                                | 250kW           | 335kW           | 400kW           | 400kW           |
|                                                                         | 415V                                                  | 220kW                                | 280kW           | 375kW           | 425kW           | 425kW           |
|                                                                         | 440V                                                  | 250kW                                | 295kW           | 400kW           | 425kW           | 425kW           |
|                                                                         | 500V                                                  | 257kW                                | 355kW           | 400kW           | 450kW           | 450kW           |
|                                                                         | 660/690V                                              | 280kW                                | 335kW           | 450kW           | 475kW           | 475kW           |
|                                                                         | 1000V                                                 | 185kW                                | 335kW           | 450kW           | 450kW           | 450kW           |
| 连接/配线<br>Connection /Wiring                                             | 线排数Number of Lines<br>线排尺寸Line Size(mm <sup>2</sup> ) | 2<br>30×5                            | 2<br>40×5       | 2<br>60×5       | 2<br>100×5      | 2<br>60×5       |
|                                                                         | 带有接片的线缆(mm <sup>2</sup> )<br>Cable with Splicing      | 2×150                                | 2×240           | —               | —               | —               |
| 动作电压<br>Operation Voltage<br>( $\theta \leq 55^\circ C$ )               | 带有连接器线缆(mm <sup>2</sup> )<br>Cable with Connector     | —                                    | —               | —               | —               | —               |
|                                                                         | 螺钉直径<br>Screw Diameter                                | Φ 10                                 | Φ 10            | Φ 12            | Φ 12            | Φ 12            |
| 紧固扭矩(N.m)<br>Tightening Torque                                          |                                                       | 35                                   | 35              | 58              | 58              | 58              |
| 配用的熔断器(SCPD)<br>Equipped With Fuse Protector                            | 型号<br>Type                                            | RT16-3<br>800A                       | RT16-3<br>1000A | RT16-3<br>1250A | RT16-3<br>1600A | RT16-3<br>2500A |

CJX2-F 四极接触器



四极接触器 Large capacity contact 4-Pole

| 型号<br>Type | 额定工作<br>电流(AC-3)<br>Rated Current<br>400V | 标准三相电动机的额定功率值(50/60Hz)AC-3(kW)<br>Rated Power of Three-phase Motor |              |      |      |      |              |       |
|------------|-------------------------------------------|--------------------------------------------------------------------|--------------|------|------|------|--------------|-------|
|            |                                           | 220V<br>230V                                                       | 380V<br>400V | 415V | 440V | 500V | 660V<br>690V | 1000V |
| CJX2-F1154 | 115                                       | 30                                                                 | 55           | 59   | 59   | 75   | 80           | 65    |
| CJX2-F1504 | 150                                       | 40                                                                 | 75           | 80   | 80   | 90   | 100          | 65    |
| CJX2-F1854 | 185                                       | 55                                                                 | 90           | 100  | 100  | 110  | 110          | 100   |
| CJX2-F2254 | 225                                       | 63                                                                 | 110          | 110  | 110  | 129  | 129          | 100   |
| CJX2-F2654 | 265                                       | 75                                                                 | 132          | 140  | 140  | 160  | 160          | 147   |
| CJX2-F3304 | 330                                       | 100                                                                | 160          | 180  | 200  | 200  | 220          | 160   |
| CJX2-F4004 | 400                                       | 110                                                                | 200          | 220  | 250  | 257  | 280          | 185   |
| CJX2-F5004 | 500                                       | 147                                                                | 250          | 280  | 295  | 355  | 335          | 335   |
| CJX2-F6304 | 630                                       | 200                                                                | 335          | 375  | 400  | 400  | 450          | 425   |
| CJX2-F7804 | 780                                       | 220                                                                | 400          | 425  | 425  | 450  | 475          | 450   |



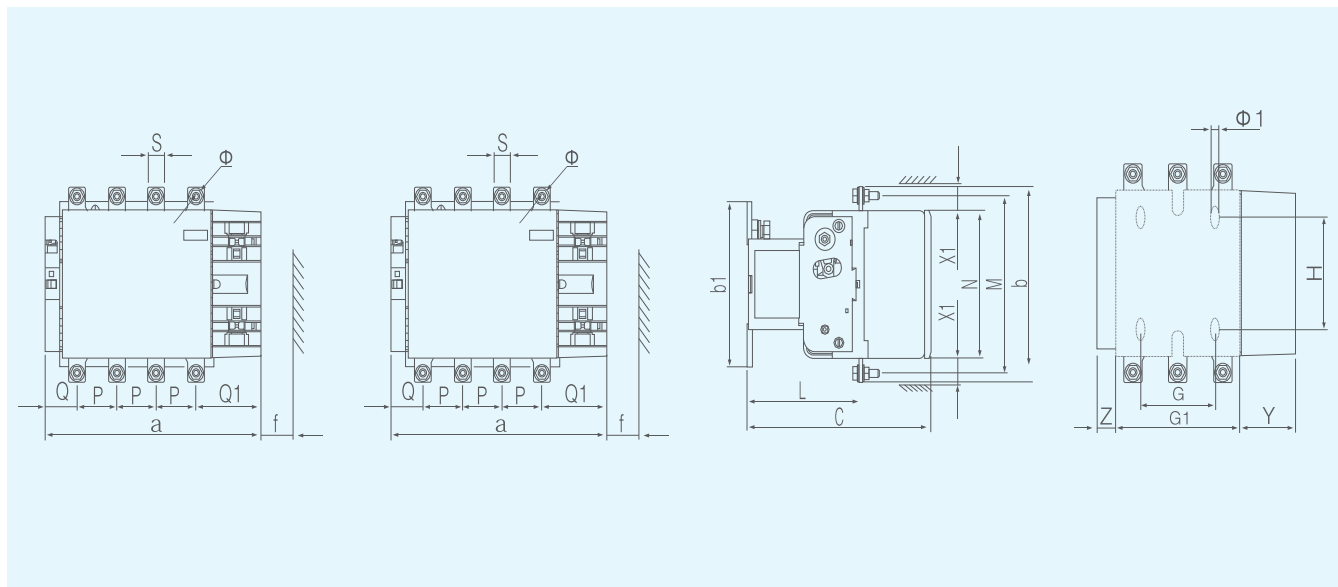
机械联锁接触器 Reversing Contactors

| 型号<br>Type | 额定工作<br>电流(AC-3)<br>Rated Current<br>400V | 标准三相电动机的额定功率值(50/60Hz)AC-3(kW)<br>Rated Power of Three-phase Motor |              |      |      |      |              |       |
|------------|-------------------------------------------|--------------------------------------------------------------------|--------------|------|------|------|--------------|-------|
|            |                                           | 220V<br>230V                                                       | 380V<br>400V | 415V | 440V | 500V | 660V<br>690V | 1000V |
| CJX2-F115N | 115                                       | 30                                                                 | 55           | 59   | 59   | 75   | 80           | 65    |
| CJX2-F150N | 150                                       | 40                                                                 | 75           | 80   | 80   | 90   | 100          | 65    |
| CJX2-F185N | 185                                       | 55                                                                 | 90           | 100  | 100  | 110  | 110          | 100   |
| CJX2-F225N | 225                                       | 63                                                                 | 110          | 110  | 110  | 129  | 129          | 100   |
| CJX2-F265N | 265                                       | 75                                                                 | 132          | 140  | 140  | 160  | 160          | 147   |
| CJX2-F330N | 330                                       | 100                                                                | 160          | 180  | 200  | 200  | 220          | 160   |
| CJX2-F400N | 400                                       | 110                                                                | 200          | 220  | 250  | 257  | 280          | 185   |
| CJX2-F500N | 500                                       | 147                                                                | 250          | 280  | 295  | 355  | 335          | 335   |
| CJX2-F630N | 630                                       | 200                                                                | 335          | 375  | 400  | 400  | 450          | 425   |
| CJX2-F800N | 800                                       | 220                                                                | 450          | 425  | 425  | 450  | 475          | 450   |



# 安装尺寸示意图

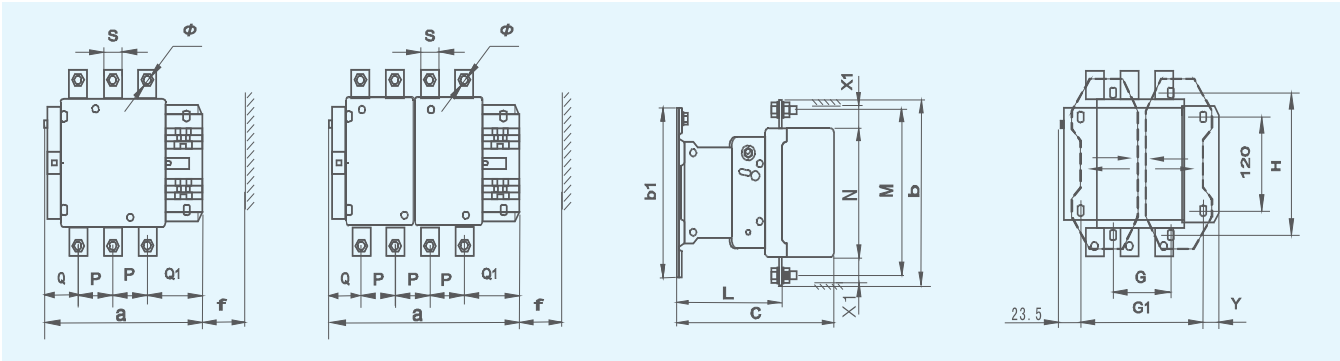
CJX2-F115\1154-330\3304



| CJX2-F | a     | P  | Q    | Q1   | S  | Φ   | f   | b   | b1  | M   | N   | C   | L     | G  | H       | Φ1  | G1    | Z    | Y  | X1    |       |
|--------|-------|----|------|------|----|-----|-----|-----|-----|-----|-----|-----|-------|----|---------|-----|-------|------|----|-------|-------|
|        |       |    |      |      |    |     |     |     |     |     |     |     |       |    |         |     |       |      |    | 500V≤ | >500V |
| 115    | 163.5 | 37 | 29.5 | 60   | 15 | M6  | 131 | 162 | 137 | 147 | 124 | 171 | 107   | 80 | 120-106 | 6.5 | 106   | 13.5 | 44 | 10    | 15    |
| 1154   | 200.5 | 37 | 29.5 | 60   | 15 | M6  | 131 | 162 | 137 | 147 | 124 | 171 | 107   | 80 | 120-106 | 6.5 | 143   | 13.5 | 44 | 10    | 15    |
| 150    | 163.5 | 40 | 26   | 57.5 | 20 | M8  | 131 | 170 | 137 | 150 | 124 | 171 | 107   | 80 | 120-106 | 6.5 | 106   | 13.5 | 44 | 10    | 15    |
| 1504   | 200.5 | 40 | 25   | 55.5 | 20 | M8  | 131 | 170 | 137 | 150 | 124 | 171 | 107   | 80 | 120-106 | 6.5 | 143   | 13.5 | 44 | 10    | 15    |
| 185    | 168.5 | 40 | 29   | 59.5 | 20 | M8  | 130 | 174 | 137 | 154 | 127 | 181 | 113.5 | 80 | 120-106 | 6.5 | 111   | 13.5 | 44 | 10    | 15    |
| 1854   | 208.5 | 40 | 29   | 59.5 | 20 | M8  | 130 | 174 | 137 | 154 | 127 | 181 | 113.5 | 80 | 120-106 | 6.5 | 151   | 13.5 | 44 | 10    | 15    |
| 225    | 168.5 | 48 | 21   | 51.5 | 25 | M10 | 130 | 197 | 137 | 172 | 127 | 181 | 113.5 | 80 | 120-106 | 6.5 | 111   | 13.5 | 44 | 10    | 15    |
| 2254   | 208.5 | 48 | 17   | 47.5 | 25 | M10 | 130 | 197 | 137 | 172 | 127 | 181 | 113.5 | 80 | 120-106 | 6.5 | 151   | 20.5 | 44 | 10    | 15    |
| 265    | 201.5 | 48 | 39   | 66.5 | 25 | M10 | 147 | 203 | 145 | 178 | 147 | 213 | 141   | 96 | 120-106 | 6.5 | 140   | 20.5 | 38 | 10    | 15    |
| 2654   | 244.5 | 48 | 34   | 66.5 | 25 | M10 | 147 | 203 | 145 | 178 | 147 | 213 | 141   | 96 | 120-106 | 6.5 | 186   | 20.5 | 38 | 10    | 15    |
| 330    | 213   | 48 | 43   | 74   | 25 | M10 | 147 | 206 | 145 | 181 | 158 | 219 | 145   | 96 | 120-106 | 6.5 | 154.5 | 20.5 | 38 | 10    | 15    |
| 3304   | 261   | 48 | 43   | 74   | 25 | M10 | 147 | 206 | 145 | 181 | 158 | 219 | 145   | 96 | 120-106 | 6.5 | 202.5 | 20.5 | 38 | 10    | 15    |

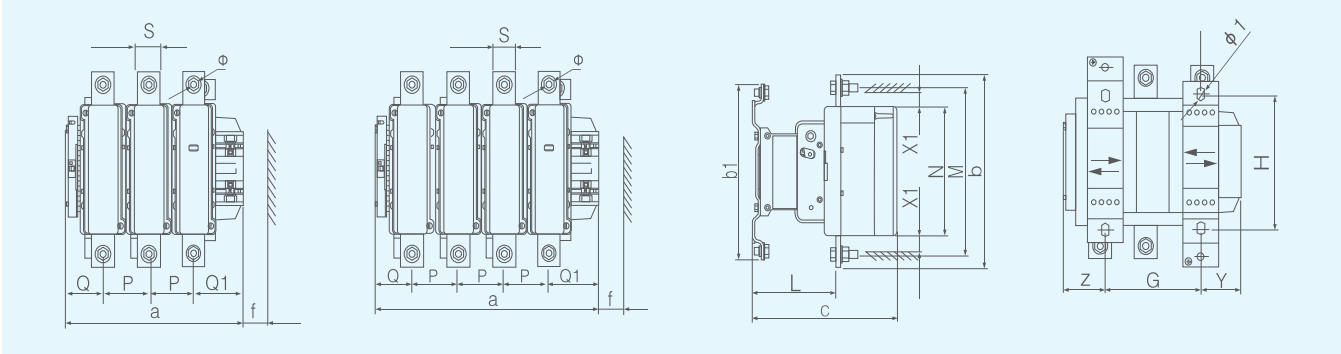
安装尺寸示意图

CJX2-F400\4004\500\5004



| CJX2-F | a   | P  | Q  | Q1 | S  | $\phi$ | f   | b   | b1  | M   | N   | C   | L   | G            | G1            | H   | $\phi 1$ | Y    | X1          |       |
|--------|-----|----|----|----|----|--------|-----|-----|-----|-----|-----|-----|-----|--------------|---------------|-----|----------|------|-------------|-------|
|        |     |    |    |    |    |        |     |     |     |     |     |     |     |              |               |     |          |      | 500V $\leq$ | >500V |
| 400    | 213 | 48 | 43 | 74 | 25 | M10    | 151 | 206 | 209 | 181 | 158 | 219 | 145 | 80 (66-102)  | 170 (156-192) | 180 | 8.5      | 19.5 | 15          | 20    |
| 4004   | 261 | 48 | 43 | 74 | 25 | M10    | 151 | 206 | 209 | 181 | 158 | 219 | 145 | 80 (66-150)  | 170 (156-240) | 180 | 8.5      | 67.5 | 15          | 20    |
| 500    | 233 | 50 | 46 | 77 | 30 | M10    | 169 | 238 | 209 | 208 | 172 | 232 | 146 | 80 (66-120)  | 170 (156-210) | 180 | 8.5      | 39.5 | 15          | 20    |
| 5004   | 288 | 50 | 46 | 77 | 30 | M10    | 169 | 238 | 209 | 208 | 172 | 232 | 146 | 140 (66-175) | 230 (156-265) | 180 | 8.5      | 39.5 | 15          | 20    |

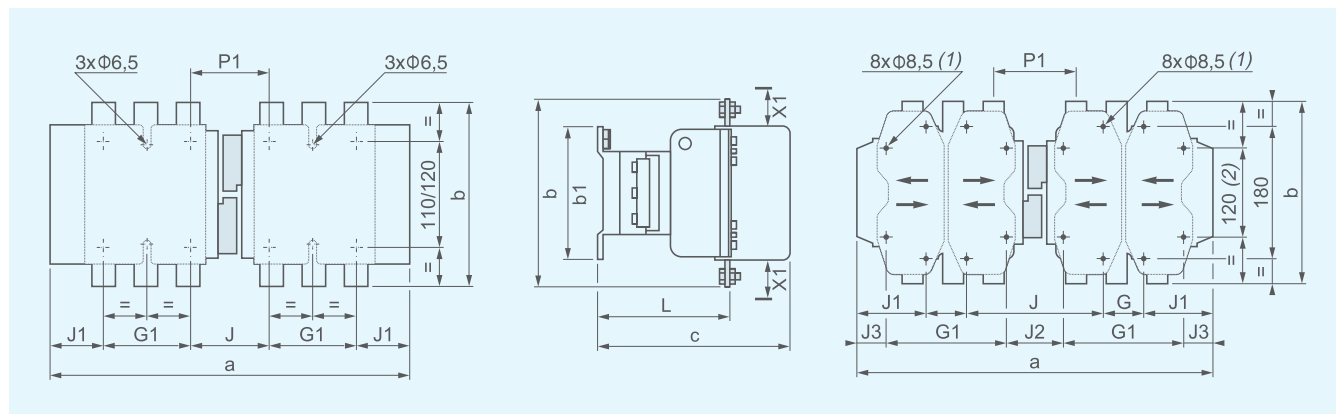
CJX2-F630\6304\800



| CJX2-F | a   | P  | Q  | Q1 | S  | $\phi$ | f   | b   | b1  | M   | N   | C   | L   | G             | H   | $\phi 1$ | Z    | Y    | X1          |       |
|--------|-----|----|----|----|----|--------|-----|-----|-----|-----|-----|-----|-----|---------------|-----|----------|------|------|-------------|-------|
|        |     |    |    |    |    |        |     |     |     |     |     |     |     |               |     |          |      |      | 500V $\leq$ | >500V |
| 630    | 309 | 80 | 60 | 89 | 40 | M12    | 201 | 304 | 280 | 264 | 202 | 255 | 155 | 180 (100-195) | 185 | 10.5     | 60.5 | 68.5 | 20          | 25    |
| 6304   | 309 | 80 | 60 | 89 | 40 | M12    | 201 | 304 | 280 | 264 | 202 | 255 | 155 | 240 (150-275) | 185 | 10.5     | 60.5 | 68.5 | 20          | 25    |
| 800    | 309 | 80 | 60 | 89 | 40 | M12    | 201 | 304 | 280 | 264 | 202 | 255 | 155 | 180 (100-195) | 185 | 10.5     | 60.5 | 68.5 | 20          | 25    |

# 安装尺寸示意图

CJX2-F115N\1154N-800N



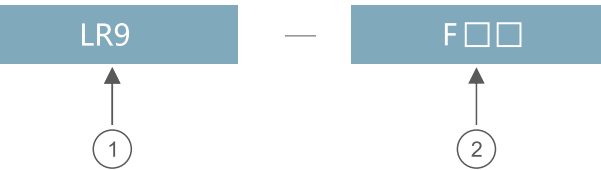
| CJX2-F/N | a   | b   | b1  | c   | G   | G1  | J   | J1    | J2 | J3   | L     | P1  |
|----------|-----|-----|-----|-----|-----|-----|-----|-------|----|------|-------|-----|
| 115      | 345 | 162 | 137 | 171 | -   | 80  | 71  | 57    | -  | -    | 107   | 77  |
| 1154     | 419 | 162 | 137 | 171 | -   | 80  | 108 | 75.5  | -  | -    | 107   | 77  |
| 150      | 345 | 170 | 137 | 171 | -   | 80  | 71  | 57    | -  | -    | 107   | 71  |
| 1504     | 422 | 170 | 137 | 171 | -   | 80  | 111 | 75.5  | -  | -    | 107   | 71  |
| 185      | 357 | 174 | 137 | 181 | -   | 80  | 78  | 59.5  | -  | -    | 113.5 | 78  |
| 1854     | 437 | 174 | 137 | 181 | -   | 80  | 118 | 79.5  | -  | -    | 113.5 | 78  |
| 225      | 357 | 197 | 137 | 181 | -   | 80  | 78  | 59.5  | -  | -    | 113.5 | 62  |
| 2254     | 437 | 197 | 137 | 181 | -   | 80  | 118 | 79.5  | -  | -    | 113.5 | 54  |
| 265      | 425 | 203 | 145 | 213 | -   | 96  | 109 | 61.5  | -  | -    | 141   | 100 |
| 2654     | 521 | 203 | 145 | 213 | -   | 96  | 157 | 85.5  | -  | -    | 141   | 100 |
| 330      | 447 | 206 | 145 | 219 | -   | 96  | 124 | 65.5  | -  | -    | 145   | 107 |
| 3304     | 543 | 206 | 145 | 219 | -   | 96  | 172 | 89.5  | -  | -    | 145   | 107 |
| 400      | 446 | 206 | 209 | 219 | 80  | 170 | 157 | 64.5  | 67 | 19.5 | 145   | 107 |
| 4004     | 542 | 206 | 209 | 219 | 80  | 170 | 157 | 112.5 | 67 | 67.5 | 145   | 107 |
| 500      | 485 | 238 | 209 | 232 | 80  | 170 | 156 | 84.5  | 66 | 39.5 | 146   | 112 |
| 5004     | 595 | 238 | 209 | 232 | 140 | 230 | 156 | 79.5  | 66 | 34.5 | 146   | 112 |
| 630      | 636 | 304 | 280 | 255 | 180 | -   | 139 | 68.5  | -  | -    | 155   | 137 |
| 6304     | 796 | 304 | 280 | 255 | 240 | -   | 139 | 68.5  | -  | -    | 155   | 137 |
| 800      | 636 | 304 | 280 | 255 | 180 | -   | 139 | 68.5  | -  | -    | 155   | 137 |

(1)除了CJX2-F630和F800: 4 x Φ10.5 Except CJX2 -F630 and F800 : 4 x Φ 10.5.

(2)除了CJX2-F630和F800 Except CJX2 - F630 and F800.

LR9-F 热过载继电器

型号及其含义Type and Signification



- ① 产品代号 Relay Series Product Code
- ② 电流等级Current Class



适用范围 Application Range

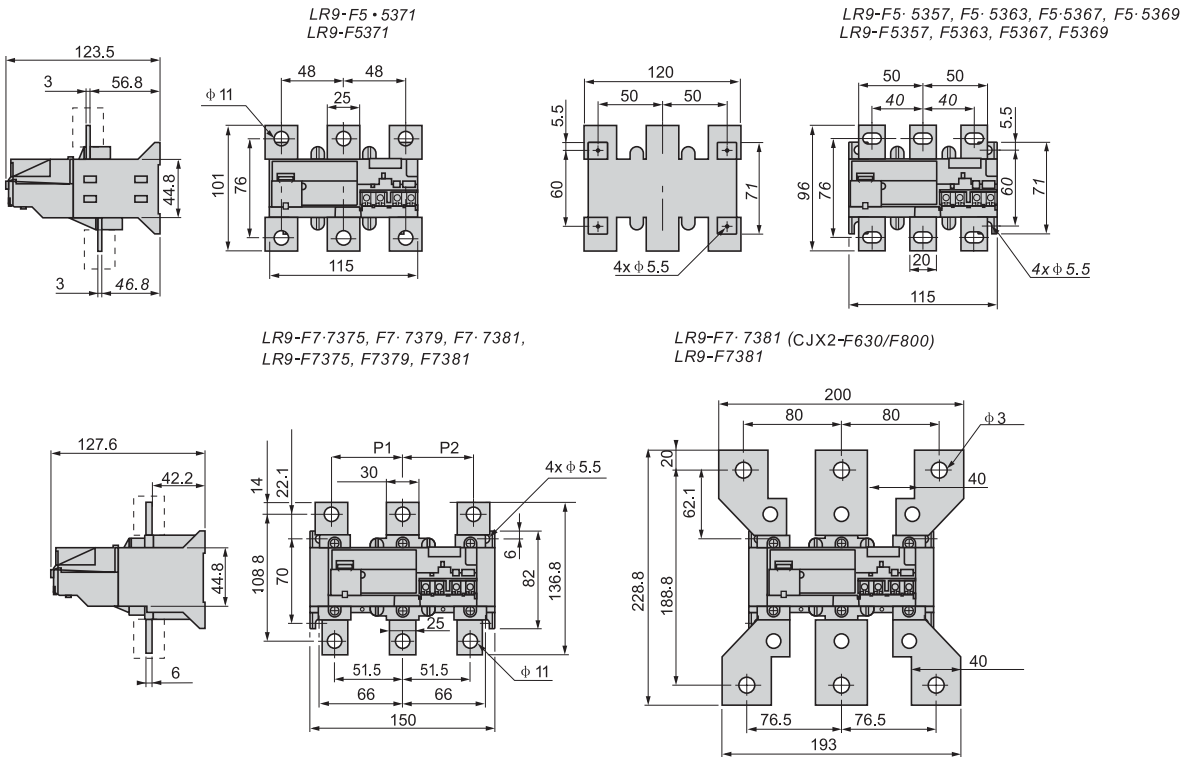
LR9-F□□ 系列热过载继电器适用于交流50Hz或60Hz，电压至660V，电流至630A及以下电路，供交流电动机热保护作用。并且有差动机构和温度补偿环节，可与CJX2-F大容量接触器组装，也可独立安装。

LR9-F□□ series thermal relay is suitable for using in the circuits rated voltage up to 660V rated current 630AAC 50Hz or 60Hz, for over-voltage protection of AC motor. The relay has the differential mechanism and temperature compensation. It can be used with CJX2-F AC contactor, or can be used alone.

技术参数 Technical Parameters

| 型号<br>Type | 编号<br>Number | 额定电流范围 (A)<br>Setting range(A) | 相配接触器型号<br>For contactor |
|------------|--------------|--------------------------------|--------------------------|
| LR9-F□□    | 5357         | 30-50                          | CJX2-F115-185            |
|            | 5363         | 40-80                          | CJX2-F115-185            |
|            | 5367         | 60-100                         | CJX2-F115-185            |
|            | 5369         | 90-150                         | CJX2-F115-185            |
|            | 5371         | 132-220                        | CJX2-F225-265            |
| LR9-F□□    | 7375         | 200-330                        | CJX2-F225-500            |
|            | 7379         | 300-500                        | CJX2-F225-500            |
|            | 7381         | 380-630                        | CJX2-F225-630            |

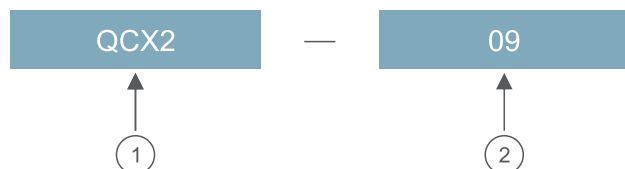
安装尺寸示意图 Dimensions(mm)



## QCX2 电动机起动器



### 型号及其含义 Type and Signification



① 产品代号 Product Code

② 框架等级: 09~95

Rated Operating Current : 09~95

### 适用范围 Application Range

QCX2-□□ 系列电动机起动器适用于交流50Hz/60Hz、额定工作电压至440V、额定工作电流至95A的电路中。用作控制三相鼠笼型电动机启动、停止之用，并对电动机的平衡过载或断相起保护作用；

QCX2-□□series D.O.L Motor Starters mainly be applicable to the AC circuits of 50Hz/60Hz under rated voltage up to 440V and rated current up to 95A. It is used for controlling the 3-phase squirrel-case type induction motor to operate starting, stop, forward or reverse. And it can protect the motor from overload and interruption.

### 特点 Characteristics

- 防护等级: IP54, 防水、防尘;  
Protection Grade: IP54, water-proof, dust-proof.
- 可配装信号指示灯(如有需要)  
Can be equipped with indicator light(if need)

### 使用环境条件 Application Condition

- 海拔不超过2000m。
- 周围空气温度为-5℃~+40℃, 24小时内其平均值不超过+35℃。
- 大气条件: 在+40℃时大气相对湿度不超过50%, 在较低温度下可以有较高的相对湿度, 最湿月的月平均最低温度不超过+25℃, 该月的月平均最大相对湿度不超过90%, 由于温度变化发生在产品上的凝露情况必须采取措施。
- 污染等级: 3级。
- 安装面与垂直面倾斜度不大于±5°。
- 产品安装和使用在无显著摇动、冲击和振动的地方。
- Altitude: not exceed 2000m
- Temperature: -5℃~+40℃, average not exceed +35℃ in 24 hours
- Air Condition: At the mountain site, relative humidity not exceed 50% at the max temperature of +40℃, higher relative humidity is allowable under lower temperature.
- Pollution Grade: Grade III
- Mounting Condition: The inclination between the mounting plane and the vertical plane shall not exceed 5° .
- The product shall be installed and operated at a place without obvious shake, impact and vibration.

QCX2



技术参数 Technical Parameters

| 型号<br>Type | 交流接触器<br>Selected AC<br>Contactor | 热继电器<br>Thermal Relay | 调整范围<br>Setting Range | 额定功率<br>Rated Power (AC-3) |      |          |      |
|------------|-----------------------------------|-----------------------|-----------------------|----------------------------|------|----------|------|
|            |                                   |                       |                       | 200-240V                   |      | 380-440V |      |
|            |                                   |                       |                       | kW                         | HP   | kW       | HP   |
| QCX2-09    | CJX2-09                           | JR28-13               | 0.1-0.16A             | 0.02                       | 1/38 | 0.06     | 1/13 |
|            |                                   | JR28-13               | 0.16-0.25A            | 0.03                       | 1/25 | 0.09     | 1/9  |
|            |                                   | JR28-13               | 0.25-0.4A             | 0.06                       | 1/13 | 0.12     | 1/6  |
|            |                                   | JR28-13               | 0.4-0.63A             | 0.09                       | 1/9  | 0.25     | 1/3  |
|            |                                   | JR28-13               | 0.63-1A               | 0.18                       | 1/4  | 0.37     | 1/2  |
|            |                                   | JR28-13               | 1-1.6A                | 0.25                       | 1/3  | 0.55     | 3/4  |
|            |                                   | JR28-13               | 1.25-2A               | 0.37                       | 1/2  | 0.55     | 3/4  |
|            |                                   | JR28-13               | 1.6-2.5A              | 0.55                       | 3/4  | 0.75     | 1    |
|            |                                   | JR28-13               | 2.5-4A                | 0.75                       | 1    | 1.1      | 1.5  |
|            |                                   | JR28-13               | 4-6A                  | 1.1                        | 1.5  | 2.2      | 3    |
|            |                                   | JR28-13               | 5.5-8A                | 1.5                        | 2    | 3        | 4    |
|            |                                   | JR28-13               | 7-10A                 | 2.2                        | 3    | 4        | 5.5  |
| QCX2-12    | CJX2-12                           | JR28-13               | 9-13A                 | 3                          | 4    | 4        | 5.5  |
| QCX2-18    | CJX2-18                           | JR28-13               | 12-18A                | 4                          | 5.5  | 5.5      | 7.5  |
| QCX2-25    | CJX2-25                           | JR28-13               | 17-25A                | 5.5                        | 7.5  | 7.5      | 10   |
| QCX2-32    | CJX2-32                           | JR28-13               | 23-32A                | 7.5                        | 10   | 11       | 15   |

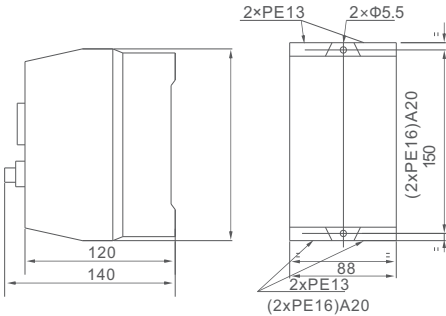
开启式外观  
Open Type

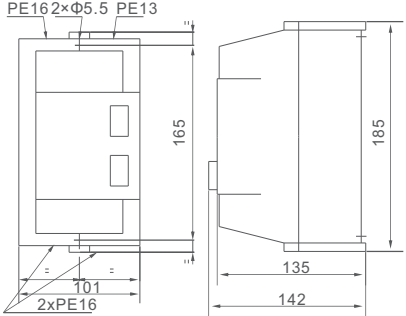




|         |               |            |
|---------|---------------|------------|
| 型号 Type | QCX2-09、12、18 | QCX2-25、32 |
|---------|---------------|------------|

安装尺寸图  
External Dimensions  
(mm)





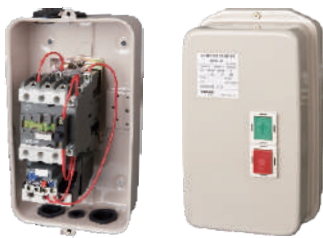
QCX2 电动机起动器



技术参数 Technical Parameters

| 型号<br>Type | 交流接触器<br>Selected AC<br>Contactor | 热继电器<br>Thermal Relay | 调整范围<br>Setting Range | 额定功率 Rated Power (AC-3) |    |          |    |
|------------|-----------------------------------|-----------------------|-----------------------|-------------------------|----|----------|----|
|            |                                   |                       |                       | 200-240V                |    | 380-440V |    |
|            |                                   |                       |                       | kW                      | HP | kW       | HP |
| QCX2-40    | CJX2-40                           | JR28-33               | 30-40A                | 11                      | 15 | 15       | 20 |
| QCX2-50    | CJX2-50                           | JR28-33               | 37-50A                | 15                      | 20 | 18.5     | 25 |
| QCX2-65    | CJX2-65                           | JR28-33               | 48-65A                | 18.5                    | 25 | 22       | 30 |
| QCX2-65    | CJX2-65                           | JR28-33               | 55-70A                | 18.5                    | 25 | 30       | 40 |
| QCX2-80    | CJX2-80                           | JR28-33               | 63-80A                | 22                      | 30 | 30       | 40 |
| QCX2-95    | CJX2-95                           | JR28-33               | 80-93A                | 25                      | 35 | 37       | 50 |

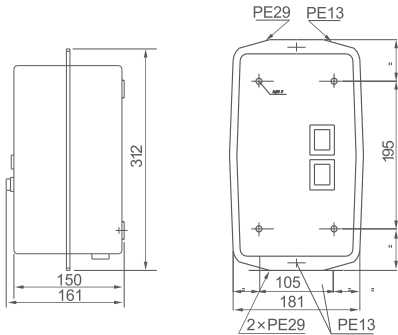
开启式外观  
Open Type



型号 Type

QCX2-40, 50, 65, 80, 95

安装尺寸图  
External Dimensions  
(mm)





## QJX2 星三角起动器



开启式外观  
Open Type Appearance



封闭式外观  
Enclosed Appearance

## 1 适用范围 Application range

QJX2 系列“星三角”减压起动器主要用于交流50Hz或60Hz，额定工作电压至380V，在AC-3使用类别，额定工作电流至95A的电路中，作为电动机的起动之用，起动器设有空气延时头，可自动进行“星三角”转换，以降低电动机起动电流。

QJX2 Series Star-Delta Starters is suitable for starting motor in the circuit of AC 50/60Hz, voltage up to 380V and current up to 95A. It is a motor starter which provided with timer for automatic changeover of star-delta to reduce the voltage and current of motor starting.

## 2 正常工作条件和安装条件 Normal working conditions and installation conditions

- 2.1 周围空气温度为： $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ ，24小时内其平均值不超过 $+35^{\circ}\text{C}$ 。
- 2.2 海拔高度：不超过2000m。
- 2.3 大气条件：最高温度为 $+40^{\circ}\text{C}$ 时，空气的相对湿度不超过50%，在较低温度下可以允许有较高的相对湿度，例如 $20^{\circ}\text{C}$ 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。
- 2.4 污染等级：3级。
- 2.5 安装类别：III类。

- 2.6 安装条件：安装面与垂直面倾斜度不大于 $\pm 5^{\circ}$ 。

- 2.7 冲击振动：产品应安装和使用在无显著摇动、冲击和振动的地方。

2.1 Temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , average temperature not exceed  $+35^{\circ}\text{C}$  in 24 hours.

2.2 Altitude: Do not exceed 2000m.

2.3 Air Condition: Atmospheric relative humidity can't exceed 50% at ambient air temperature of  $+40^{\circ}\text{C}$ , and the higher relative humidity may be allowed at lower temperatures. For example, when the ambient air degree is  $20^{\circ}\text{C}$ , the relative humidity can reach 90%. Because of the occasional condensation phenomenon of the product due to the temperature changes, the user should take special protective measures.

2.4 Pollution Grade: Grade 3.

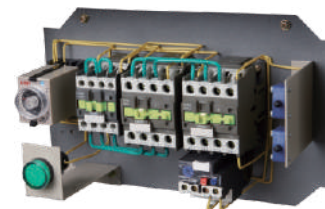
2.5 Installation category : III Class.

2.6 Mounting Condition: The inclination between the mounting plane and the vertical plane shall not exceed  $\pm 5^{\circ}$ .

2.7 Impact shock: The product shall be installed and operated at a place without obvious shake, impact and vibration.

## 3 主要参数及 technical performance Main parameter and technical characteristic

## 3.1 产品组成及主要参数 Product Composition and Main Parameters



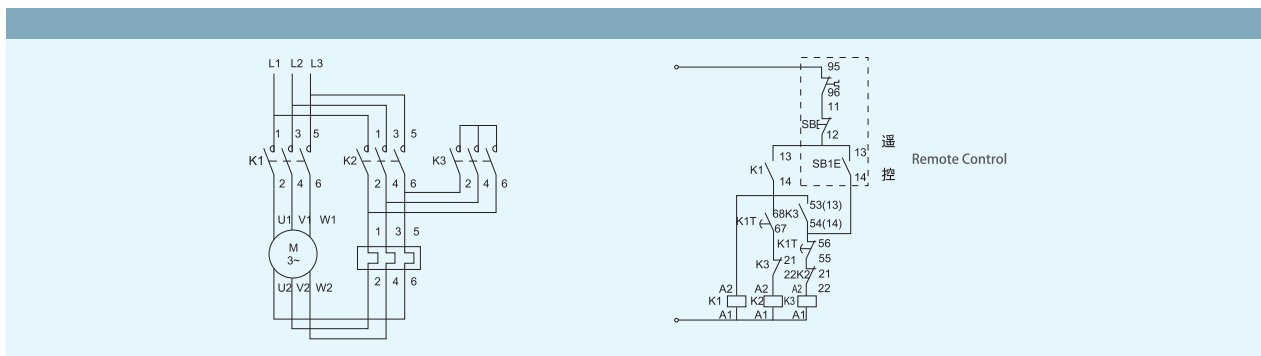
| 基本规格<br>Model | 额定绝缘<br>电压 $U_i$ (V)<br>Rated Insulated<br>Voltage | 断续工作制下的 $I_e$ (A)<br>$I_{e \text{ under Intermittent Duty}}$ (A) |      | 可控制电动机最大功率 (kW)<br>Max. Power of Motor<br>can be controlled (kW) |      |      | 热过载继电器<br>Thermal Overload Relay |                                     | 交流接触器型号规格<br>Model Specification of AC contactor |                         |                                 |
|---------------|----------------------------------------------------|------------------------------------------------------------------|------|------------------------------------------------------------------|------|------|----------------------------------|-------------------------------------|--------------------------------------------------|-------------------------|---------------------------------|
|               |                                                    | 380V                                                             | 660V | 220V                                                             | 380V | 660V | 型号<br>Type                       | 整定电流范围A<br>Setting Current<br>Range | Y运转KM1<br>Y Operate KM1                          | △运转KM3<br>△ Operate KM3 | 隔离用KM2<br>Isolation<br>with KM2 |
| QJX2-09       | 690                                                | 09                                                               | 09   | 4                                                                | 7.5  | 10   | JR28-13                          | 7-10                                | CJX2-0910                                        | CJX2-0901               | CJX2-0910                       |
| QJX2-12       |                                                    | 12                                                               | 8.9  | 5.5                                                              | 11   | 13   | JR28-13                          | 9-13                                | CJX2-0910                                        | CJX2-1201               | CJX2-1210                       |
| QJX2-18       |                                                    | 18                                                               | 10.6 | 7.5                                                              | 15   | 18.5 | JR28-13                          | 12-18                               | CJX2-1210                                        | CJX2-1801               | CJX2-1810                       |
| QJX2-25       |                                                    | 25                                                               | 18   | 11                                                               | 18.5 | 25   | JR28-13                          | 17-25                               | CJX2-1810                                        | CJX2-2501               | CJX2-2510                       |
| QJX2-32       |                                                    | 32                                                               | 21   | 15                                                               | 25   | 33   | JR28-13                          | 23-32                               | CJX2-1810                                        | CJX2-3201               | CJX2-3210                       |
| QJX2-40       |                                                    | 40                                                               | 34   | 18.5                                                             | 33   | 50   | JR28-33                          | 30-40                               | CJX2-2510                                        | CJX2-4011               | CJX2-4011                       |
| QJX2-50       |                                                    | 50                                                               | 39   | 25                                                               | 45   | 63   | JR28-33                          | 37-50                               | CJX2-4011                                        | CJX2-5011               | CJX2-5011                       |
| QJX2-65       |                                                    | 65                                                               | 42   | 30                                                               | 55   | 63   | JR28-33                          | 48-65                               | CJX2-4011                                        | CJX2-6511               | CJX2-6511                       |
| QJX2-80       |                                                    | 80                                                               | 49   | 37                                                               | 63   | 80   | JR28-33                          | 63-80                               | CJX2-5011                                        | CJX2-8011               | CJX2-8011                       |
| QJX2-95       |                                                    | 95                                                               | 49   | 45                                                               | 80   | 80   | JR28-33                          | 80-93                               | CJX2-6511                                        | CJX2-9511               | CJX2-9511                       |

## QJX2 星三角起动器

### 3.2 起动器控制电动机功率 Motor Power Controllable by The Starter

| 380V三相鼠笼电动机额定电流<br>Rated Current of 380V 3-phase<br>Squirrel-cage Motor |        | 功率 (kW)<br>Power | 适配产品型号<br>Adapted<br>Product Model | 与“星三角”减压 起动器相配热继电器<br>Thermal Relay Matched with<br>Star-delta Pressure Reducing<br>Starter | 相配熔断器<br>Matching Fuse |
|-------------------------------------------------------------------------|--------|------------------|------------------------------------|---------------------------------------------------------------------------------------------|------------------------|
| Pe (kW)                                                                 | Ie (A) | A 0.58 (Ie)      |                                    |                                                                                             |                        |
| 7.5                                                                     | 15.5   | 8.9              | QJX2-09                            | JR28-13                                                                                     | 20                     |
| 9                                                                       | 18.5   | 10.7             | QJX2-12                            | JR28-13                                                                                     | 20                     |
| 10                                                                      | 20     | 11.6             | QJX2-12                            | JR28-13                                                                                     | 20                     |
| 15                                                                      | 30     | 17.4             | QJX2-18                            | JR28-13                                                                                     | 32                     |
| 18.5                                                                    | 37     | 21.5             | QJX2-25                            | JR28-13                                                                                     | 50                     |
| 22                                                                      | 41     | 25.5             | QJX2-32                            | JR28-13                                                                                     | 63                     |
| 25                                                                      | 52     | 30.2             | QJX2-32                            | JR28-13                                                                                     | 63                     |
| 30                                                                      | 60     | 34.8             | QJX2-40                            | JR28-33                                                                                     | 80                     |
| 33                                                                      | 68     | 39.5             | QJX2-40                            | JR28-33                                                                                     | 80                     |
| 37                                                                      | 72     | 41.8             | QJX2-50                            | JR28-33                                                                                     | 100                    |
| 40                                                                      | 79     | 45.8             | QJX2-50                            | JR28-33                                                                                     | 100                    |
| 45                                                                      | 85     | 49.3             | QJX2-50                            | JR28-33                                                                                     | 100                    |
| 51                                                                      | 98     | 56.3             | QJX2-65                            | JR28-33                                                                                     | 125                    |
| 55                                                                      | 105    | 60.9             | QJX2-65                            | JR28-33                                                                                     | 125                    |
| 59                                                                      | 112    | 65               | QJX2-80                            | JR28-33                                                                                     | 125                    |
| 63                                                                      | 117    | 67.9             | QJX2-80                            | JR28-33                                                                                     | 125                    |
| 75                                                                      | 138    | 80               | QJX2-95                            | JR28-33                                                                                     | 160                    |
| 80                                                                      | 147    | 85.3             | QJX2-95                            | JR28-33                                                                                     | 160                    |

### 3.3 接线图 Wiring Diagram



## 4 结构特点 Structural Features

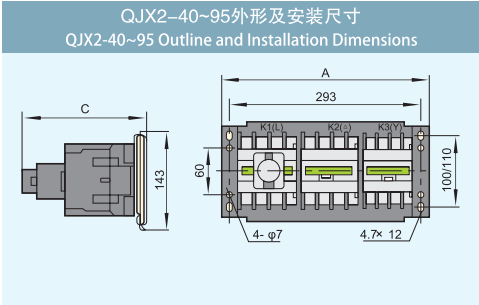
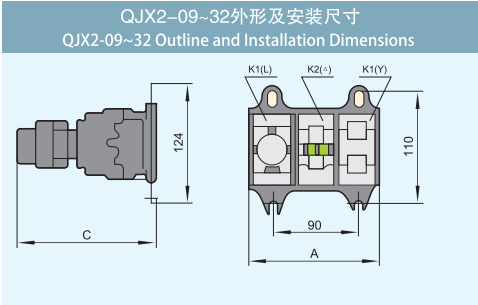
- 4.1 本起动器由三台接触器和空气延时头组成，三台接触器均安装在同一个铁底板上，靠左面的接触器为连接主电路进、出线，另两台为星三角转换接触器，空气延时头挂装在最左侧接触器上。

This starter is composed of three contactors and an air delay. Three contactors are installed on the same iron base plate, the left contactor is connected to the incoming and outgoing lines of the main circuit, and the air delay is mounted on this contactor. The other two are star-delta changeover contactors.

QJX2 星三角起动器

5 外形及安装尺寸  
Outline and Installation Dimensions

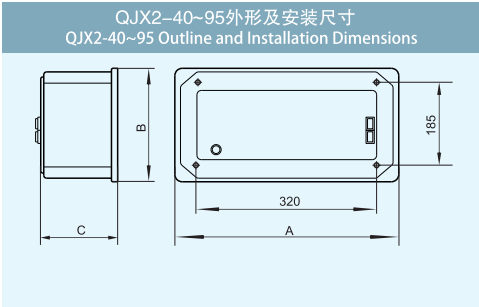
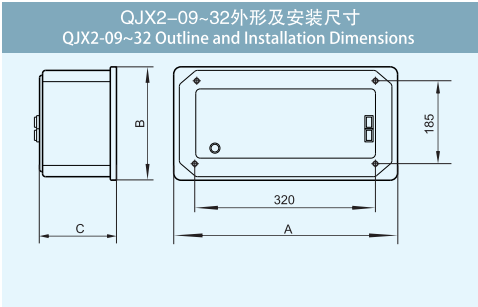
开启式 Open type



mm

| 型号<br>Model | QJX2-09 | 12  | 18  | 25  | 32  | 40  | 50  | 65  | 80  | 95  |
|-------------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A           | 140     | 140 | 140 | 174 | 174 | 310 | 310 | 310 | 310 | 310 |
| C           | 149     | 149 | 154 | 164 | 169 | 185 | 185 | 185 | 196 | 196 |

封闭式 Enclosed type



mm

| 型号<br>Model | QJX2-09~32 | QJX2-40~95 |
|-------------|------------|------------|
| A           | 370        | 470        |
| B           | 235        | 265        |
| C           | 102        | 110        |

## QJX3 星三角起动机

### 1 适用范围 Application range

QJX3 系列星三角起动机, 使用于交流440V 50/60Hz, 在AC-3使用功率为11KW~45KW以下的三相鼠笼型感应电动机降压启动之用, 启动方式有“Y”自动换成“△”运行, 对电动机具有过载, 断相与短路保护功能, 广泛用于压缩机, 风机, 水泵等工业设备。

QJX3 Serie Star-Delta Starters, Cabinet mainly be applicable to the circuit of voltage 440V, AC 50/60Hz. It is used for controlling the 3-phase squirrel-close type induction motor with a power of less than 45kW on AC-3. The startup mode is automarically changed from "Y" to "△". It can protect the motor from overload, open phase, and short circuit. It is widely used in compressors, fans, water pumps and other industrial equipment.



### 2 型号及含义 Type and Signification



注: 下单时请备注电流表、电压表配置指针式或数显式;

Note: When placing an order, please note that the ammeter and voltmeter are configured with pointer type or digital display type.

### 3 正常工作条件和安装条件 Normal working conditions and installation conditions

3.1 周围空气温度为:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , 24小时内其平均值不超过 $+35^{\circ}\text{C}$ 。

3.2 海拔高度: 不超过2000m。

3.3 大气条件: 最高温度为 $+40^{\circ}\text{C}$ 时, 空气的相对湿度不超过50%, 在较低温度下可以允许有较高的相对湿度, 例如 $20^{\circ}\text{C}$ 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。

3.4 污染等级: 3级。

3.5 安装类别: III类。

3.6 安装条件: 安装面与垂直面倾斜度不大于 $\pm 5^{\circ}$ 。

3.7 冲击振动: 产品应安装和使用在无显著摇动、冲击和振动的地方。

3.1 Temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , average temperature not exceed  $+35^{\circ}\text{C}$  in 24 hours.

3.2 Altitude: Do not exceed 2000m.

3.3 Air Condition: Atmospheric relative humidity can't exceed 50% at ambient air temperature of  $+40^{\circ}\text{C}$ , and the higher relative humidity may be allowed at lower temperatures. For example, when the ambient air degree is  $20^{\circ}\text{C}$ , the relative humidity can reach 90%. Because of the occasional condensation phenomenon of the product due to the temperature changes, the user should take special protective measures.

3.4 Pollution Grade: Grade 3.

3.5 Installation category : III Class.

3.6 Mounting Condition: The inclination between te mounting plane and the vertical plane shall not exceed  $\pm 5^{\circ}$ .

3.7 Impact shock: The product shall be installed and operated at a place without obvious shake, impact and vibration.



## QJX3 星三角起动器

## 4 产品的选用 Product Selection

| 元器件清单<br>Components List          |                                               |                        |                |                        |                |                        |                |                        |                |
|-----------------------------------|-----------------------------------------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|
| 电气<br>符号<br>Electrical<br>Symbols | 元器件名称<br>Name                                 | 型号<br>Model            | 数量<br>Quantity | 型号<br>Model            | 数量<br>Quantity | 型号<br>Model            | 数量<br>Quantity | 型号<br>Model            | 数量<br>Quantity |
|                                   |                                               | QJX3-11                |                | QJX3-15                |                | QJX3-18.5              |                | QJX3-22                |                |
| QF                                | 断路器<br>circuit breaker                        | AON-63 3P D63          | 1              | AON-63 3P D63          | 1              | AON-63 3P D63          | 1              | AOM-125 3P 100A        | 1              |
| KM1                               | 交流接触器<br>AC contactor                         | CJX2-2510 25A<br>380V  | 1              | CJX2-2510 25A<br>380V  | 1              | CJX2-3210 32A<br>380V  | 1              | CJX2-4011 40A<br>380V  | 1              |
| KM2                               | 交流接触器<br>AC contactor                         | CJX2-2501 25A<br>380V  | 1              | CJX2-2501 25A<br>380V  | 1              | CJX2-3201 32A<br>380V  | 1              | CJX2-4011 40A<br>380V  | 1              |
| KM3                               | 交流接触器<br>AC contactor                         | CJX2-1210 12A<br>380V  | 1              | CJX2-1810 18A<br>380V  | 1              | CJX2-2510 25A<br>380V  | 1              | CJX2-3210 32A<br>380V  | 1              |
| FM                                | 电动机综合保护器<br>Motor Protector                   | JD-5/80<br>1-80A 380V  | 1              | JD-5/80<br>1-80A 380V  | 1              | JD-5/80<br>1-80A 380V  | 1              | JD-5/80<br>1-80A 380V  | 1              |
| KT                                | 时间继电器<br>Time relay                           | ST3P A-B<br>0-60s 380V | 1              | ST3P A-B<br>0-60s 380V | 1              | ST3P A-B<br>0-60s 380V | 1              | ST3P A-B<br>0-60s 380V | 1              |
| FU                                | 熔断器(选用)<br>Fuse protector<br>(Optional)       | RT18-32<br>6A          | 1              | RT18-32<br>6A          | 1              | RT18-32<br>6A          | 1              | RT18-32<br>6A          | 1              |
| HL1                               | 电流、电压指示表<br>Volt-ammeter                      | —                      | 1              | —                      | 1              | —                      | 1              | —                      | 1              |
| HL2                               | 启动信号灯 黄色<br>Start indicator light Yellow      | AD16-22<br>380V        | 1              | AD16-22<br>380V        | 1              | AD16-22<br>380V        | 1              | AD16-22<br>380V        | 1              |
| HL3                               | 运行信号灯 绿色<br>Operation indicator light - Green | AD16-22<br>380V        | 1              | AD16-22<br>380V        | 1              | AD16-22<br>380V        | 1              | AD16-22<br>380V        | 1              |
| SB1                               | 启动按钮 绿色<br>Start bottom - Green               | LA38-11<br>380V        | 1              | LA38-11<br>380V        | 1              | LA38-11<br>380V        | 1              | LA38-11<br>380V        | 1              |
| SB2                               | 停止按钮 红色<br>Stop bottom - Red                  | LA38-11<br>380V        | 1              | LA38-11<br>380V        | 1              | LA38-11<br>380V        | 1              | LA38-11<br>380V        | 1              |
| 整定延时参考值(S)<br>Setting delay value |                                               | 11                     |                | 11                     |                | 15                     |                | 15                     |                |

| 元器件清单<br>Components List          |                                               |                        |                |                        |                |                          |                |
|-----------------------------------|-----------------------------------------------|------------------------|----------------|------------------------|----------------|--------------------------|----------------|
| 电气<br>符号<br>Electrical<br>Symbols | 元器件名称<br>Name                                 | 型号<br>Model            | 数量<br>Quantity | 型号<br>Model            | 数量<br>Quantity | 型号<br>Model              | 数量<br>Quantity |
|                                   |                                               | QJX3-30                |                | QJX3-37                |                | QJX3-45                  |                |
| QF                                | 断路器<br>circuit breaker                        | AOM-125 3P 100A        | 1              | AOM-125 3P 125A        | 1              | AOM-125 3P 125A          | 1              |
| KM1                               | 交流接触器<br>AC contactor                         | CJX2-5011 50A<br>380V  | 1              | CJX2-6511 65A<br>380V  | 1              | CJX2-9511 95A<br>380V    | 1              |
| KM2                               | 交流接触器<br>AC contactor                         | CJX2-5011 50A<br>380V  | 1              | CJX2-6511 65A<br>380V  | 1              | CJX2-9511 95A<br>380V    | 1              |
| KM3                               | 交流接触器<br>AC contactor                         | CJX2-4011 40A<br>380V  | 1              | CJX2-5011 50A<br>380V  | 1              | CJX2-6511 65A<br>380V    | 1              |
| FM                                | 电动机综合保护器<br>Motor Protector                   | JD-5/80<br>1-80A 380V  | 1              | JD-5/80<br>1-80A 380V  | 1              | JD-5/200<br>80-200A 380V | 1              |
| KT                                | 时间继电器<br>Time relay                           | ST3P A-B<br>0-60s 380V | 1              | ST3P A-B<br>0-60s 380V | 1              | ST3P A-B<br>0-60s 380V   | 1              |
| FU                                | 熔断器(选用)<br>Fuse protector<br>(Optional)       | RT18-32<br>6A          | 1              | RT18-32<br>6A          | 1              | RT18-32<br>6A            | 1              |
| HL1                               | 电流、电压指示表<br>Volt-ammeter                      | —                      | 1              | —                      | 1              | —                        | 1              |
| HL2                               | 启动信号灯 黄色<br>Start indicator light Yellow      | AD16-22<br>380V        | 1              | AD16-22<br>380V        | 1              | AD16-22<br>380V          | 1              |
| HL3                               | 运行信号灯 绿色<br>Operation indicator light - Green | AD16-22<br>380V        | 1              | AD16-22<br>380V        | 1              | AD16-22<br>380V          | 1              |
| SB1                               | 启动按钮 绿色<br>Start bottom - Green               | LA38-11<br>380V        | 1              | LA38-11<br>380V        | 1              | LA38-11<br>380V          | 1              |
| SB2                               | 停止按钮 红色<br>Stop bottom - Red                  | LA38-11<br>380V        | 1              | LA38-11<br>380V        | 1              | LA38-11<br>380V          | 1              |
| 整定延时参考值(S)<br>Setting delay value |                                               | 15                     |                | 20                     |                | 20                       |                |

注：元器件清单可以根据客户需求定制

Note: Components could customized based on clients' requirement.

## QJX3 星三角起动器

### 5 外形尺寸 Outline and Installation Dimensions



| 型号<br>Model | A   | B   | C   |
|-------------|-----|-----|-----|
| QJX3-11     | 400 | 300 | 200 |
| QJX3-15     | 400 | 300 | 200 |
| QJX3-18.5   | 400 | 300 | 200 |
| QJX3-22     | 600 | 400 | 200 |
| QJX3-30     | 600 | 400 | 200 |
| QJX3-37     | 600 | 400 | 200 |
| QJX3-45     | 800 | 600 | 250 |

由于感性负载在启动电源的一瞬间，会产生反电动势电压，这种电压的峰值远远大于负载交流供电系统所能承受的电压值，很容易引起星三角起动器的瞬时超载，影响星三角起动器的使用寿命。

因此，所需要的星三角起动器需要放大一档。

如15KW电动机，需要选用18.5KW的星三角起动器。

18.5KW电动机，需要选用22KW的星三角起动器。

The inductive load will generate a back-EMF voltage at the moment the power is turned on. The peak value of this voltage is far greater than the voltage that the load AC power supply can withstand, so it is easy to cause the instantaneous overload of the star-delta starter cabinet, which will affect the service life of the star-delta starter cabinet. Therefore, the required star-delta starter cabinet needs to be amplified by one gear. For example, a 15KW motor needs a 18.5KW star-delta starter cabinet, and a 18.5KW motor needs a 22KW star-delta starter cabinet.