

## 1 产品概述 Features

|                                         |            |                |
|-----------------------------------------|------------|----------------|
| 型号 Type                                 | FXC8V-200B |                |
| 外形尺寸 Outline Dimensions                 | 见5.1       | See5.1         |
| 重量 Unit Weight                          | 约350±15g   | Approx.350±15g |
| 密封类型 Seal type                          | 陶瓷密封       | Ceramic seal   |
| 触点形式 Contact Arrangement                | 一组常开       | 1 Form A       |
| 触点材料 Contact Material                   | 铜合金        | Copper Alloy   |
| 辅助触点形式<br>Auxiliary contact Arrangement | 无          | Nil            |

## 2 订货标记 Ordering Information

FXC8 V - 200 B / 1000 - 24 - H C 5 (XXX)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

|   |                         |                                                                      |
|---|-------------------------|----------------------------------------------------------------------|
| ① | 产品型号 Type               | FXC8                                                                 |
| ② | 应用场合 Application        | V: 新能源汽车领域 Vehicle                                                   |
| ③ | 负载电流 Lode Current       | 200: 200A                                                            |
| ④ | 系列的细分 Series Breakdown  | B: B 系列 series                                                       |
| ⑤ | 负载电压 Lode Voltage       | 无 Nil: 450 Vd.c.<br>750: 750 Vd.c.<br>1000: 1000 Vd.c.               |
| ⑥ | 线圈电压 Coil Voltage       | 12: 12 Vd.c. 单线圈 Single-coil<br>24: 24 Vd.c. 单线圈 Single-coil         |
| ⑦ | 触点形式 Contact Type       | H: 一组常开 1 Form A                                                     |
| ⑧ | 线圈引出形式 Coil Termination | C: 连接器 Connector                                                     |
| ⑨ | 负载引出形式 Load Termination | 5: 内螺纹 Bolt terminal Female                                          |
| ⑩ | 特殊特性号 Special Code      | 客户需求（当客户存在特殊需求时使用）<br>Customer demand(Only for special requirements) |

### 3 线圈额定参数 Coil Rating

|                                                 |                         |                         |
|-------------------------------------------------|-------------------------|-------------------------|
| 额定电压 Rated Voltage (Vd.c.)                      | 12                      | 24                      |
| 驱动方式 Driving Mode                               | 单线圈 Single-coil         | 单线圈 Single-coil         |
| 最大工作电压<br>Max. Operating Voltage (Vd.c.)        | 18                      | 36                      |
| 动作电压 Operate Voltage (Vd.c.)<br>(at 23 °C)      | $\leq 9$                | $\leq 18$               |
| 释放电压 Operate Voltage (Vd.c.)<br>(at 23 °C)      | $\geq 1$                | $\geq 2$                |
| 线圈电阻 Coil Resistance ( $\Omega$ )<br>(at 23 °C) | $24 \times (1 \pm 7\%)$ | $96 \times (1 \pm 7\%)$ |
| 线圈额定功耗 Rated Power (W)<br>(at 23 °C)            | 约 Approx. 6             |                         |

### 4 参数 Specification

|                                        |                                                         |                                                                |
|----------------------------------------|---------------------------------------------------------|----------------------------------------------------------------|
| 主触点参数<br>Main contact<br>Specification | 触点额定负载<br>Contact Rating                                | 200 A ( $\geq 60 \text{ mm}^2$ wire)                           |
|                                        | 工作电压范围<br>Working Voltage Range                         | 12~1000V                                                       |
|                                        | 最大分断电流<br>Max. Breaking Current                         | 1000A 800Vd.c. (1 op)                                          |
|                                        | 最小适用负载<br>Min. Applicable Load                          | 6 Vd.c. 1 A                                                    |
|                                        | 接触电阻<br>Contact Resistance                              | $\leq 0.5 \text{ m}\Omega$ (at 200A 23°C)                      |
|                                        | 电流耐受<br>Current Endurance<br>(85°C, 60mm <sup>2</sup> ) | 200A 持续/out<br>250A 15min<br>320A 5min<br>600A 30s<br>900A 10s |
|                                        | 动作时间<br>Operate Time                                    | $\leq 30 \text{ ms}$                                           |
|                                        | 释放时间<br>Release Time                                    | $\leq 10 \text{ ms}$                                           |
|                                        | 回跳时间<br>Bounce Time                                     | $\leq 5 \text{ ms}$                                            |

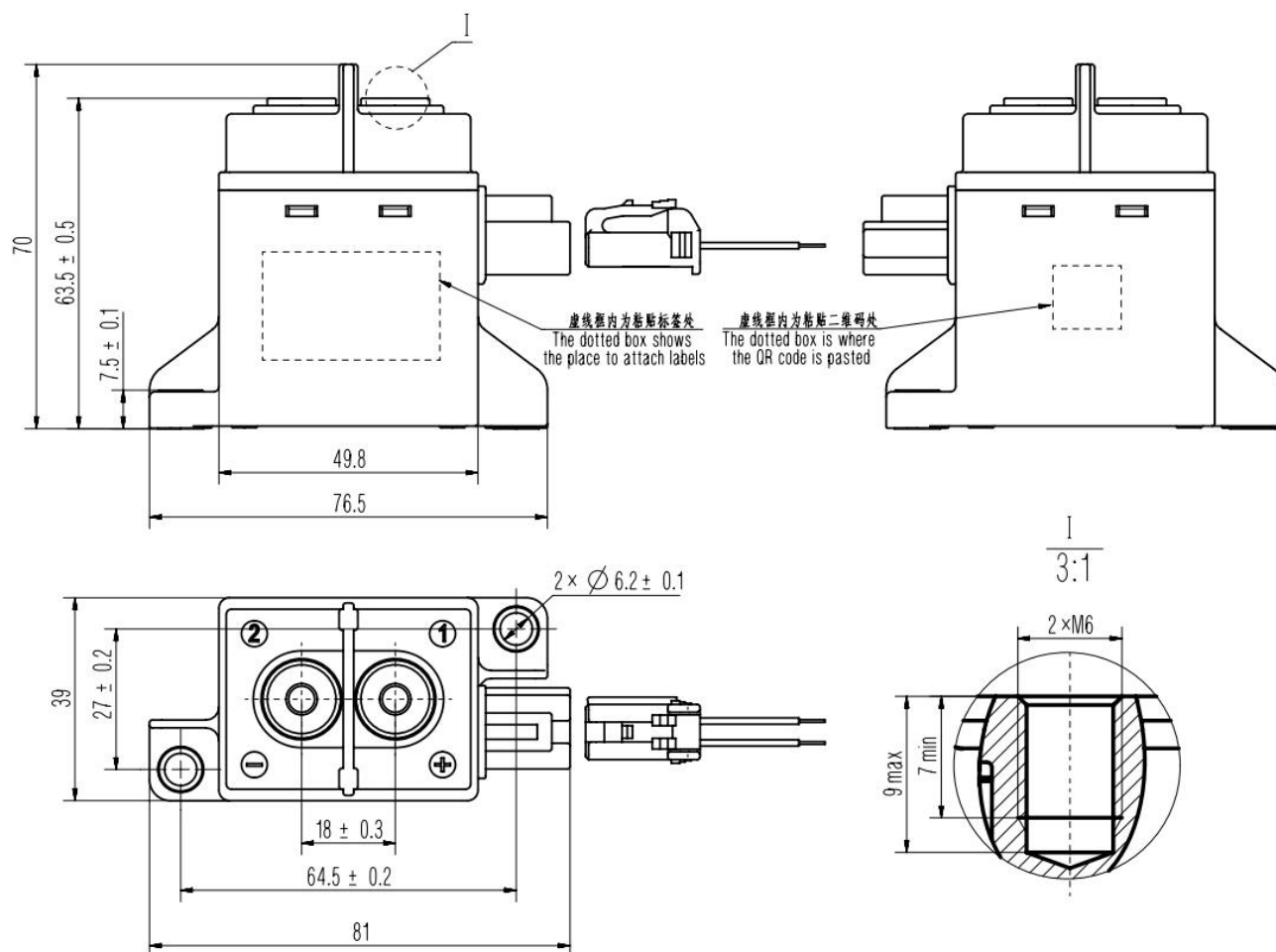
|                                  |                                              |                                                                                                                                                                                                                                                     |                                                            |
|----------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| 电耐久性<br>Electrical<br>Endurance  | FXC8V-200B/450<br>(23℃, 0.6s on : 5.4s off)  | 正向接通<br>Forward making: +200A 22.5Vd.c. $2.5 \times 10^4$ 次 ops<br>正向切换<br>Forward switching: +200A 450Vd.c. $1 \times 10^3$ 次 ops<br>反向切换<br>Reverse switching: -200A 450Vd.c. 200次 ops<br>正向极限分断<br>Forward limit breaking: +1000A 300Vd.c. 1次 op |                                                            |
|                                  | FXC8V-200B/750<br>(23℃, 0.6s on : 5.4s off)  | 正向接通<br>Forward making: +200A 37.5Vd.c. $2 \times 10^4$ 次 ops<br>正向切换<br>Forward switching: +200A 750Vd.c. 500次 ops<br>反向切换<br>Reverse switching: -200A 750Vd.c. 50次 ops<br>正向极限分断<br>Forward limit breaking: +1000A 300Vd.c. 1次 op                 |                                                            |
|                                  | FXC8V-200B/1000<br>(23℃, 0.6s on : 5.4s off) | 正向分断<br>Forward breaking: +120A 1000Vd.c. 800次 ops<br>正向极限分断<br>Forward limit breaking: +1500A 800Vd.c. 1次 op                                                                                                                                       |                                                            |
| 机械耐久性<br>Mechanical<br>Endurance | 23℃, 0.5s on : 0.5s off                      | $2 \times 10^5$ 次 ops                                                                                                                                                                                                                               |                                                            |
| 安全绝缘<br>Safety<br>insulation     | 绝缘电阻<br>Insulation Resistance                | 断开主触点间<br>Between main open<br>contacts                                                                                                                                                                                                             | 初始 Initial:<br>$\geq 1000\text{M}\Omega$ (1000 Vd.c. 1min) |
|                                  |                                              | 主触点间与线圈间<br>Between main<br>contact and coil                                                                                                                                                                                                        | 初始 Initial:<br>$\geq 1000\text{M}\Omega$ (1000 Vd.c. 1min) |

|                                                                                 |                                                                                                                                                                                                  |                                                                                                |                                            |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------|
|                                                                                 | 介质耐压<br>Dielectric Strength<br>(漏电流 Leak<br>Current: ≤1 mA )                                                                                                                                     | 断开触点间<br>Between main open<br>contacts                                                         | 初始 Initial:<br>≥3000 Va.c. (50/60 Hz 1min) |
|                                                                                 |                                                                                                                                                                                                  | 触点间与线圈间<br>Between main<br>contact and coil                                                    | 初始 Initial:<br>≥4000 Va.c. (50/60 Hz 1min) |
| 机械性能<br>Mechanical<br>property                                                  | 振动 Vibration                                                                                                                                                                                     | 49m/s²，10～500Hz，正弦波 sine wave                                                                  |                                            |
|                                                                                 | 冲击-稳定性<br>Shock-Functional                                                                                                                                                                       | 断开 Off: : 196m/s²，11ms 半正弦波 half sine wave<br>闭合 On: 196m/s²，11ms 半正弦波 half sine wave          |                                            |
|                                                                                 | 冲击-强度<br>Shock-Destructive                                                                                                                                                                       | 490m/s²，6ms 半正弦波 half sine wave                                                                |                                            |
| 使用条件<br>Operating<br>Condition                                                  | 触点允许的最高温度<br>Maximum allowable<br>temperature of contacts                                                                                                                                        | 130℃（适用于连续工作制 Suitable for continuous<br>system）                                               |                                            |
|                                                                                 |                                                                                                                                                                                                  | 180℃（适用于短期工作制 Suitable for Short-time<br>system）                                               |                                            |
|                                                                                 | 温度 Temperature                                                                                                                                                                                   | -40 ℃ ～ 85 ℃                                                                                   |                                            |
|                                                                                 | 湿度 Humidity                                                                                                                                                                                      | 5 % ～ 85 % RH                                                                                  |                                            |
|                                                                                 | 安装方向<br>Mounting Direction                                                                                                                                                                       | 立式 Vertical                                                                                    |                                            |
|                                                                                 | 注：使用环境条件不能导致继电器内部产生结露、结冰，否则会导致继电器失效。<br>Note:The ambient environment of application shall not cause any dewing or<br>icing inside the relay. Otherwise, the relay may fail to work consequently. |                                                                                                |                                            |
| 贮存条件<br>Storage<br>Condition                                                    | 温度 Temperature                                                                                                                                                                                   | -40 ℃ ～ 85 ℃                                                                                   |                                            |
|                                                                                 | 湿度 Humidity                                                                                                                                                                                      | 5 % ～ 85 % RH                                                                                  |                                            |
|                                                                                 | 贮存期 Storage Life                                                                                                                                                                                 | 12 个月 12 Months (原包装 Original Package)                                                         |                                            |
|                                                                                 | 环境 Environment                                                                                                                                                                                   | 1. 产品贮存场地不能有腐蚀性气体。<br>Store in locations where the product is not exposed<br>to corrosive gas. |                                            |
| 2.贮存中应避免阳光直照产品。<br>Keep product is not exposed to the direct ray of the<br>sun. |                                                                                                                                                                                                  |                                                                                                |                                            |

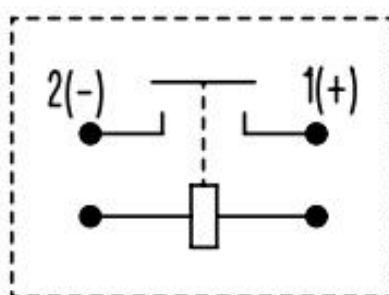
## 5 产品结构 Configuration

### 5.1 外形图 Outline Dimensions:

FXC8V-200B/XXXX-XX-HC5(XXX)



### 5.2 接线图 Wiring Diagram



负载有极性、线圈无极性。

Polarity option on the load; no polarity on coil.

注 Notes:

1. 产品外形尺寸未注公差按下表执行。

All unspecified tolerance according to following table.

|              |           |           |           |
|--------------|-----------|-----------|-----------|
| 尺寸 Dimension | <10       | 10~50     | >50       |
| 公差 Tolerance | $\pm 0.3$ | $\pm 0.5$ | $\pm 0.8$ |

2. 产品出货时默认不含连接器、组合螺钉等安装配件。

By default, the product is shipped without installation accessories such as connectors and assembly screws.

3. 产品可适配天海连接器，具体型号如下：

The default connector of the product and THB connector can be used,the specific models are as follows:

|           |                        |
|-----------|------------------------|
| 品牌 Brand  | 连接器编号 Connector number |
| 天海 THB    | 0435                   |
| 矢崎 Yazaki | 7283-1020              |

## 6 注意事项 Notes

### 6.1 应用说明 Application Description

6.1.1 为防止出现松动，接触器安装时请使用平垫和弹垫。To prevent loosening, use flat washers and spring washers when installing contactors.

6.1.2 注意连接铜排的厚度和扭矩大小，若超出下表建议的数值，会造成螺纹滑牙或安装不紧的问题；Please pay attention to the thickness of copper bars and the value of the torque. If it goes beyond the recommended values in the below table , it will cause thread slide or installation is not tight.

| 负载端安装<br>Installation for terminal with load |                |                                            |                                           |                             |                                                          | 本体安装<br>Contactor installation |                |
|----------------------------------------------|----------------|--------------------------------------------|-------------------------------------------|-----------------------------|----------------------------------------------------------|--------------------------------|----------------|
| 安装方式<br>Installation way                     | 扭矩要求<br>Torque | 建议铜排厚度<br>Recommended copper bar thickness | 建议铜排孔径<br>Recommended copper bar aperture | 导线截面积<br>cable section area | 铜排平面度-安装域<br>Flatness of copper bar in installation area | 安装方式<br>Installation way       | 扭矩要求<br>Torque |
| M6 螺钉<br>M6 screw                            | 5~6N·m         | 3mm                                        | φ6.0~6.5mm                                | ≥60mm <sup>2</sup>          | 0.1                                                      | M5 螺钉<br>M5 screw              | 3~4N·m         |

6.1.3 接触器使用在  $L/R \geq 1\text{ms}$  感性负载（L 负载）的情况下，请注意采取并联浪涌吸收措施。否则可能会造成电气寿命下降、发生切断不良。When the contactor is used at  $L/R \geq 1\text{ms}$  inductive load (L load), please take parallel surge absorption measures. Otherwise, it may cause a decrease in electrical life and bad cutting.

6.1.4 接触器使用在容性负载的情况下，请注意采取预充等措施，建议接触器闭合压差控制在 20V 以内。未采取措施的情况下，可能会造成触点粘连。When the contactor is used with a capacitive load, take measures such as pre-charging, and it is recommended that the closing pressure difference of the contactor be controlled within 20V. Otherwise, it may cause contact fusion welding.

6.1.5 不带节能板的产品，为抑制接触器线圈的反向电动势，建议加装压敏电阻或 TVS 管。若使用二极管，会使接触器释放时间大大加长，肯定会导致切断性能的下降。For products without an energy-saving plate, it is recommended to install a varistor or TVS tube to suppress the reverse electromotive force of the contactor coil. If the diode is used, the contactor release time will be greatly extended, which will certainly lead to a decline in cutting performance.

6.1.6 本接触器的内部触点使用了气体保护，伴随着触点温度变化（环境温度+通电致使温度上升）而存在内部气体穿透，严禁将接触器长时间置于超过产品温度使用范围（-40℃～85℃）环境中。The contactor contacts are sealed and filled with gas. When the contact temperature

changes, there is internal gas penetrating characteristic. contactors are forbidden to be used at the temperature beyond our suggestion  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$  for long time.

6.1.7 请避免在强磁界（变压器、磁铁的周围）的附近安装，否则可能造成接触器电气性能和切断性能不良；Please avoid installation near the strong magnetic boundary (around the transformer and magnet), otherwise it may cause poor electrical performance and cutting performance of the contactor;

6.1.8 请避免在发热物体（如熔断器、分流器等）的附近安装，否则可能导致温升叠加接触器触点端过热。Do not install in the vicinity of hot objects (such as fuses, diverters, etc.); otherwise, the contact end of the temperature rise supercontactor may overheat.

6.1.9 请避免在引出片上粘附油脂等异物，否则会导致接触器触点端异常发热。Please avoid sticking grease and other foreign matter on the extraction sheet, otherwise it will cause abnormal heating of the contactor contact end.

6.1.10 在接触器坠落的情况下，原则上请不要再使用。In principle, please do not use it when the contactor has fallen down.

## 6.2 其他说明 Others

6.2.1 孚鑫达产品均符合 RoHS 要求。Weltrus products are all RoHS compliant.

6.2.2 规格书内的各项性能参数是基于标准测试条件下测得的初始值。All the performance data listed in the datasheet are the initial values tested under standard testing condition.

6.2.3 对孚鑫达而言，不可能评定接触器在每个具体应用领域的所有性能参数要求，因而客户应根据具体的使用条件选择与之相匹配的产品，若有疑问，请与孚鑫达联系，以便获取更多的技术支持，但产品选型责任仅由客户负责。Weltrus could not evaluate all the performance and all the parameters for every potential application. The customer can choose the right product according to the specific usage conditions and requirements. If there is any queries, please contact Weltrus for the technical service. However customer will responsible for what they choose and it is the user's responsibility to determine which product should be used.

6.2.4 孚鑫达保留对产品更改的权利，客户在首次下单之前应确认此规格书内容，必要时可要求我司提供新的规格书。Weltrus reserves the right to make changes Customers should reconfirm the contents of the specification before first orders and ask for us to supply a new specification if necessary.