



文件名称: File name:	功率继电器_EVHBFM500CDI-A_1500V_500A-产品规格书 RELAY_EVHBFM500CDI-A_1500V_500A-specifications			项目编号(可选) Project number(optional)	
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EVHBFM500CDI-A继电器规格书

Specifications of Relay EVHBFM500CDI-A

1、技术参数 Technical Data

规格 Specs	项目 Project	参数 Parameter
		500A 型 500A Type
		EVHBFM500CDI-A
线圈 Coil	线圈额定电压 Rated Voltage	DC24V
	吸合电压（初始）（at 23℃） Operation Voltage(initial)(at 23℃)	≤18V
	释放电压（初始）（at 23℃） Release Voltage (initial)(at 23℃)	2-10V
	启动电流[±10%]（at 23℃） Pull-in Current [±10%](at 23℃)	2. 1A
	启动功率（at 23℃） Pull-in Power (at 23℃)	50W
	维持电流（at 23℃） Holding Current [±10%](at 23℃)	0. 25A
	额定消耗功率（at 23℃） Rated Operation Power (at 23℃)	6. 0W
	最大容许电压（at 23℃） Maximum Voltage (at 23℃)	DC32V
主触点 Contacts	触点结构 Structure	一组常开触点 A set of normally open contacts
	工作电压范围 Range of carrying voltage	DC 12V~1500V
	最小适用负载（电阻负载）① Minimum applicable load (resistive)①	1A 12VDC
	接触压降（初始） Contact voltage drop (initial)	≤0. 125V（通 500A 额定电流） ≤0.125V (@500A current)
	接触电阻（初始） Contact Resistance (initial)	≤0. 25mΩ
辅助触点 Auxiliary contact	触点结构 Structure	一组常开触点 A set of normally open contacts
	辅助触点额定工作负载 Rated working load	6VDC 0. 1A
	辅助触点最小可承载电流 Minimum carrying current	6VDC 3mA
	辅助触点接触电阻 Contact Resistance	≤500mΩ



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电气性能 Electrical Properties	绝缘电阻(初始) Insulation Resistance	触点间 Between open contacts	DC1500V 1min, $\geq 1000M\Omega$,
		触点与线圈间 Between contact and coil	
		触点与外壳 Contacts and housing	
	耐电压(初始) Withstanding Voltage	触点间 Between open contacts	AC 4500V 1min, 漏电流 $\leq 0.5mA$ AC 4500V 1min, leakage current $\leq 0.5mA$
		触点与线圈间 Between contact and coil	
		触点与外壳 Contacts and housing	
机械性能 Electrical Properties	动作时间(at 23℃) Operate Time (at 23℃)		$\leq 50ms$ (施加线圈额定电压时) $\leq 50ms$ (with rated voltage applied to the coil)
	释放时间(at 23℃) Release Time (at 23℃)		$\leq 15ms$ (施加线圈额定电压时、无二极管) $\leq 15ms$ (with rated voltage applied to the coil, no diode)
	耐振动 Vibration Resistance (on)		三轴向加速度 $57.9m/s^2$, 10-2000Hz 宽带随机振动, 每轴向 32 小时 Three axial (X/Y/Z) directions acceleration are $57.9m/s^2$, 10-2000Hz., 32 hours per axis
	耐振动 Vibration Resistance (off)		三轴向加速度 $27.4m/s^2$, 5-2000Hz 宽带随机振动, 每轴向 32 小时 Three axial (X/Y/Z) directions acceleration are $27.4m/s^2$, 5-2000Hz., 32 hours per axis
	耐机械冲击 on(吸合时瞬断) Mechanical Shock Resistance (on)		半正弦脉冲 11ms, 50g 加速度, 每轴向 20 次 Half-sine pulse duration is 11ms. 50G acceleration. 20 times on each direction
	耐机械冲击 off(断开时误触) Mechanical Shock Resistance (off)		半正弦脉冲 11ms, 15g 加速度, 每轴向 20 次 Half-sine pulse duration is 11ms. 15G acceleration. 20 times on each direction
寿命 Life	耐机械冲击(强度) Mechanical Shock Resistance (Destructive)		半正弦脉冲 6ms, 50g 加速度. Half-sine pulse duration is 6ms. 50G acceleration.
	机械寿命 Mechanical Endurance		≥ 20 万次 $\geq 200,000$ cycles
环境条件 Usage Conditions	工作环境条件 Working environmental requirements		温度: $-40\sim+85^{\circ}C$ 湿度: 5%RH $\sim$ 85%RH(应无结冰, 凝露) Temperature: $-40\sim+85^{\circ}C$ Humidity: 5%RH $\sim$ 85%RH (No freeze, no condensation)
	贮存环境条件		温度: $-40\sim+85^{\circ}C$ 湿度: 5%RH $\sim$ 85%RH(应无结冰, 凝露)



★秘密★

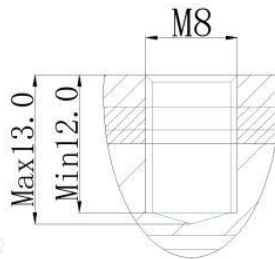
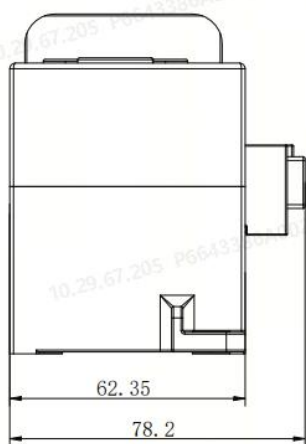
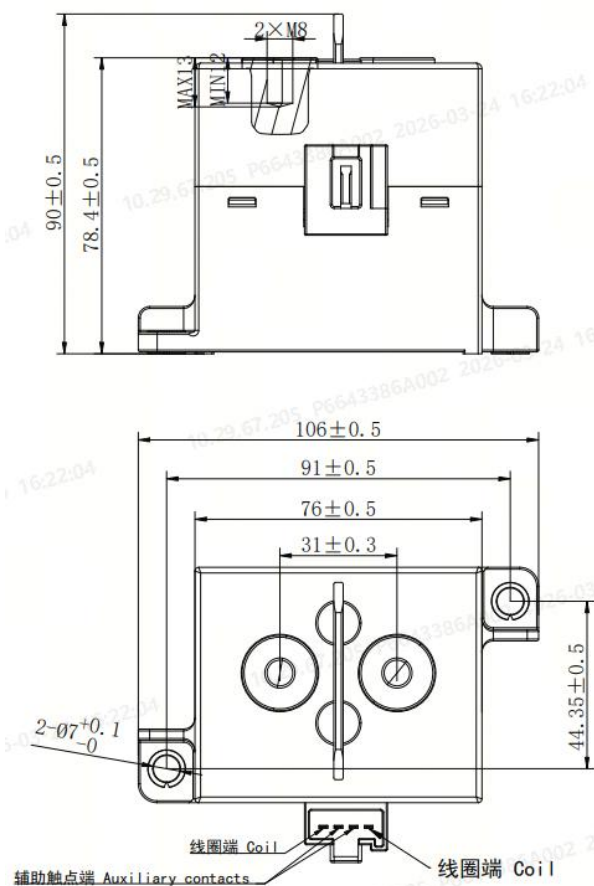
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	Storage environmental requirements	Temperature: -40~+85℃ Humidity: 5%RH~85%RH (No freeze, no condensation)
安装扭矩 Installation Torque	外壳固定脚 Shell	M6 螺丝 4.5~6.6N•m M6 screws 4.5~6.6N•m
质量 Weight		860±20g

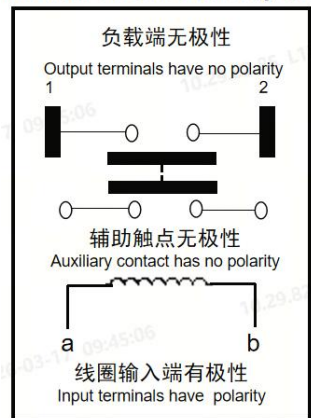
注) ①. 在微小负载水平下能够通断的下限目标值。该值有时会根据通断频率、环境条件、所期待的可靠水准发生改变, 因此在使用时, 推荐在实际负载下进行确认

Notes: ①. This value may change according to the on-off frequency, environment conditions, and expected reliability. So it is recommended to confirm the value under the actual load before using.

2、外形尺寸图 Product Structure



端子配置/内部连接图
Internal Connection Diagram



未注公差参照 Tolerance Reference List	
尺寸 (mm) Length (mm)	公差 (mm) Tolerance (mm)
<10	±0.3
10~50	±0.6
>50	±1



Load connector installation example

注: 线圈有极性, 负载和辅助触点无极性

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Note1: No polarity on load;Auxiliary contacts are non-polar;polarity on the coil。

技术要求: Requirements:

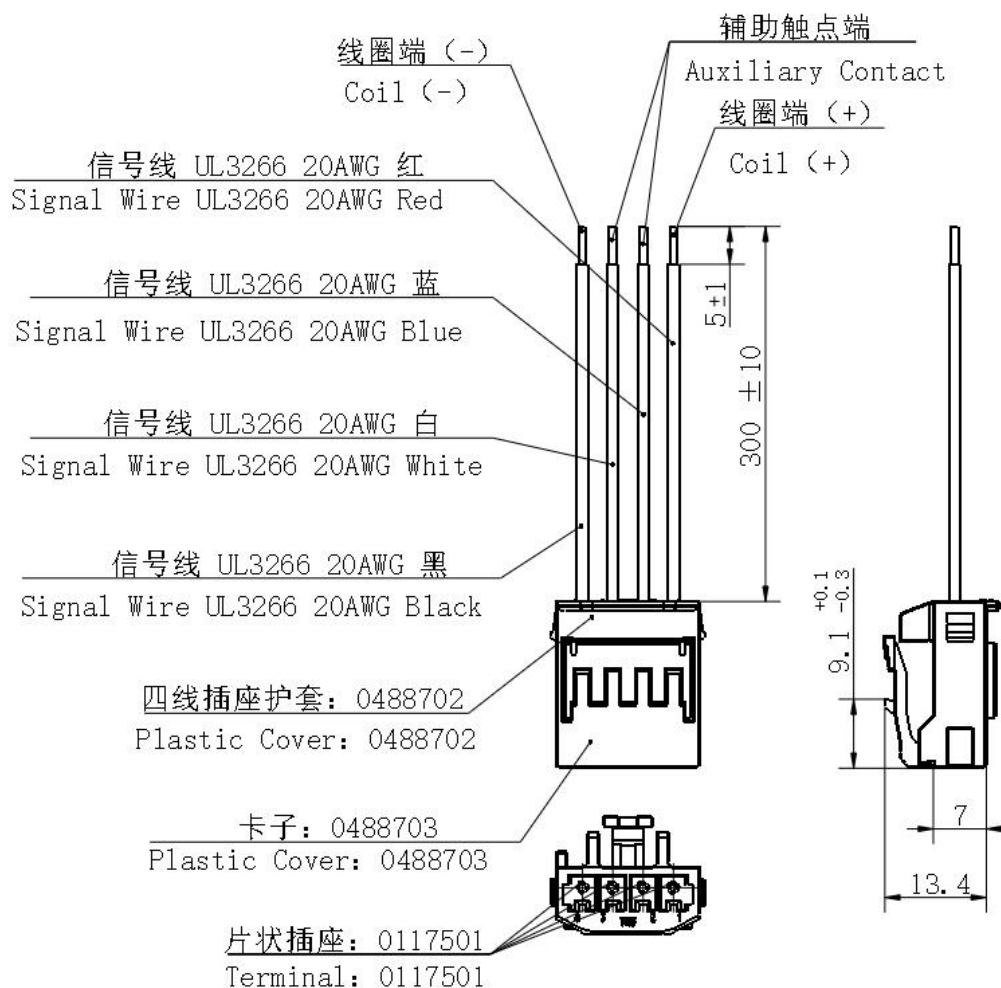
- 1、未注公差按公差列表。If there is no tolerance declared, refer to the tolerance reference list.
- 2、外观无脏污、划伤等不良, 标签需正确。No dirt or scratches on surfaces; information on labels must be correct.
- 3、安装底部平面度要求: $\leq 0.5\text{mm}$ Bottom flatness requirement: roughness $\leq 0.5\text{mm}$
- 4、出货包装满足功率继电器出货包装标准要求。

Delivery packages meet the requirements of power relay delivery packing standard.

※推荐连接器(选配) Recommended connector:

①连接器编号-天海 THB connector: 0488701

②矢崎连接器 Yazaki connector: 7283-1044



备注: 连接器为选配零件。

Note: connector are optional parts.



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3、电耐久性 Electrical Endurance

触点负载 Contact Rating	通断比 ON: OFF Ratio ON: OFF	电耐久性 Electrical Endurance
接通 Making:DC37.5V 400A C=1100uF	0.6 s:5.4 s	30000 次 cycles
分断 Breaking:DC1000V 10A	0.6 s:5.4 s	30000 次 cycles
分断 Breaking:DC1000V 400A	0.6 s:5.4 s	1000 次 cycles
分断 Breaking:DC1000V 500A	0.6 s:5.4 s	500 次 cycles
分断 Breaking:DC1000V 2000A	0.6 s:5.4 s	1 次 cycles
分断 Breaking:DC1500V 10A	0.6 s:5.4 s	20000 次 cycles
分断 Breaking:DC1500V 400A	0.6 s:5.4 s	150 次 cycles
分断 Breaking:DC1500V 500A	0.6 s:5.4 s	100 次 cycles
分断 Breaking:DC1500V 1000A	0.6 s:5.4 s	1 次 cycles

分断条件: Failure conditions:

(1)使用二极管时,触点复位时间可能会延迟,电寿命可能会下降,敬请注意。

When using a diode, the reset time of the contacts may be delayed, and the electrical life may decrease. Please take note.

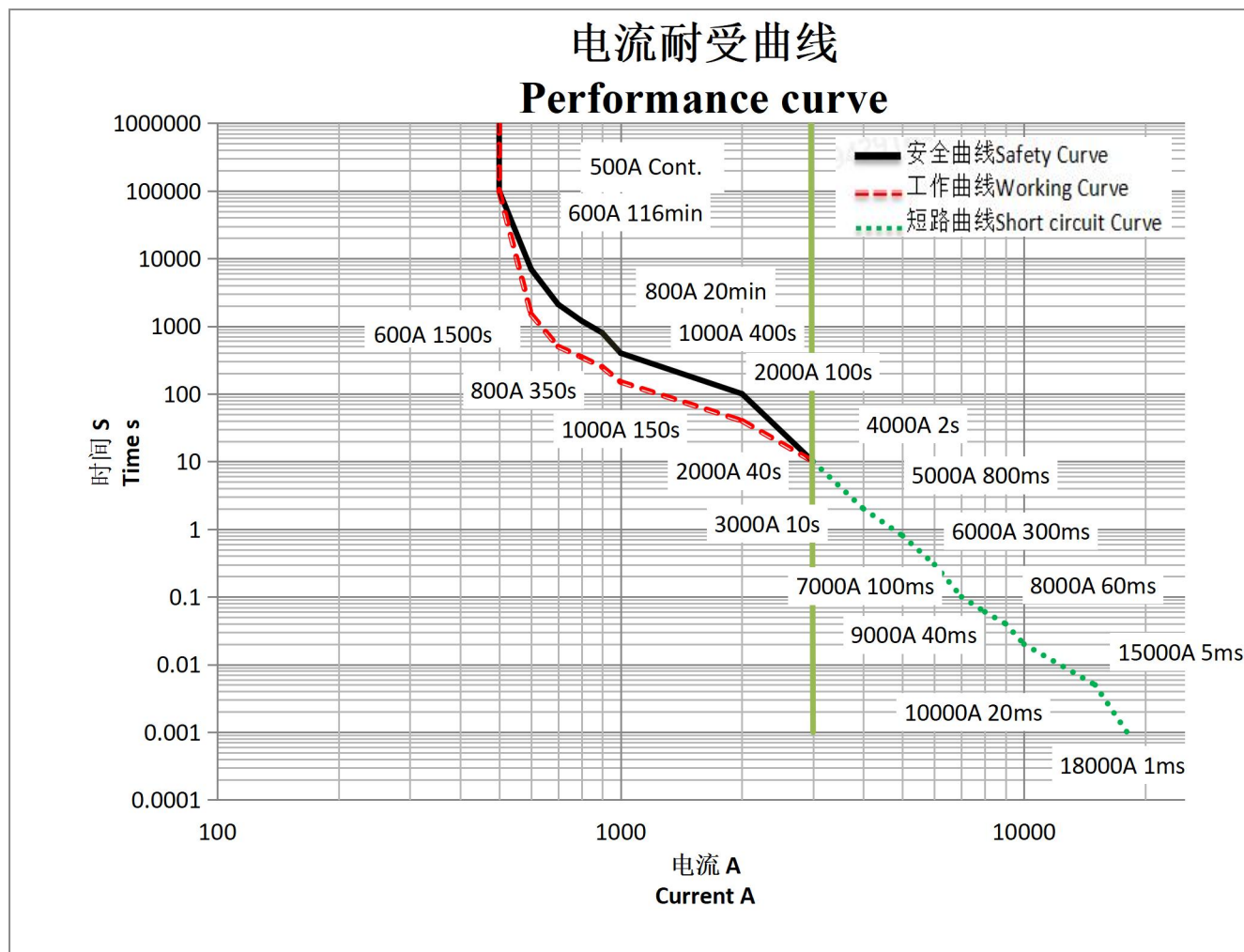
2. 环境温度为 23℃

Ambient temperature is 23℃.



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4、性能曲线 Performance curve



注: Note:

1、该曲线设定的安全曲线温度上限为 180℃，工作曲线温度上限为 130℃；处于长时间工作状态，建议温度上限不超过 130℃；

The upper temperature limit of the safety curve set for this curve is 180 °C, and the upper temperature limit of the working curve is 130 °C; in the long-term working state, it is recommended that the upper temperature limit should not exceed 130 °C;

2、环境温度为 85℃，导线截面积≥200mm²；

The ambient temperature is 85 °C, and the cross-sectional area of the conductor is ≥200mm²;

3、≥3000A 以上时，继电器很可能会粘接，但不起火，不爆炸。

When current is more than or equal to 3000A, the relay is likely to stick, but it will not fire or explode.

4、绿色线为继电器短路耐受曲线，≥6000A 以上时继电器触点可能会出现弹跳，但不起火，不爆炸

The green curve is the short-circuit withstand curve of the relay. When it is more than or equal to 6000A, the relay contact may bounce, but it will not fire or explode.



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5、标签信息 Labeling Information



标志Mark	说明Instruction	标志Mark	说明Instruction
	二维码扫描内容QR code scanned content (EVHBFM500CDI-A AAAA01A00001AAA01)		产品商标 Trademark
EVHBFM500CDI-A	产品型号Product type	500A	负载额定电流
24VDC	线圈额定电压 Rated nominal input voltage	AAA01A00001AAA01	产品编码 Product code

6、出货检验项目 (at 23℃) Shipment Inspection Items (at 23℃)

- 外观检查Appearance Check
- 尺寸检查Dimensions Check
- 吸合电压Operate Voltage Check
- 释放电压Release Voltage Check
- 额定动作电流Rated Operate Current Check
- 接触电阻Contact Resistance Check
- 耐电压Withstanding Voltage Check
- 绝缘电阻Insulation Resistance Check

7、正确使用注意事项: Cautions

■ 工作电压Operate Voltage

1) 吸合电压、释放电压会随着环境温度和使用条件而发生变化, 因此敬请注意。

Please be careful that this product's operate voltage and release voltage will change with the ambient temperature.

2) 施加的电压超过最大施加电压时, 线圈中的异常升温会缩短绝缘涂层的寿命而发生线圈烧损和层间短路, 因此请务必注意。另外, 使用环境温度的范围也请注意不要超过使用范围。

When the applied voltage exceeds the maximum applied voltage limit, the abnormal heating in the coil will shorten the lifetime of the insulating coating. So the coil is possible to burn or cause short circuit between layers. In addition, please use the product in the range of the ambient temperature.

3) 对于这款继电器, 如果额定电压(或电流)长时间施加到线圈和接点上, 然后关闭并立即打开, 则线圈温度和线圈电阻将比平时高。这意味着操作电压也比平时高, 超过了额定值(“热启动”)。在这种情况下, 应采取适当措施, 例如降低负载电流和通电时间或限制使用环境温度, 防止施加额定操作电压以上的线圈电压等。



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For this type of relays, if the rated voltage (or current) is applied to the coil and contacts for a long period and then is shut down immediately, the coil temperature will cause the coil resistance higher than its usual value. This means that the operating voltage at that time is increased, and much higher than the rating “warm start”. In this case, taking appropriate protection measures is highly recommended. Lowering the load current and operating time, or restricting the environment temperature, is usually helpful to prevent the coil voltage from exceeding the rated operating voltage range.

4) 线圈长期连续通电时, 受线圈自身发热的影响, 会促使线圈的绝缘发生劣化。

When the coil is turned on for a long time, the heating effect will deteriorate the coil's insulation characteristics.

5) 额定值中的主触点额定值均为电阻负载时的数值。使用 $L/R > 1\text{ms}$ 的感性负载(L负载)的情况下, 请与感性负载并行采取浪涌吸收措施。未采取措施的情况下, 可能会造成电气寿命下降、发生切断不良。

For rated values, the values of main contacts are tested with resistive loads. When using inductance loads which satisfies $L/R > 1\text{ms}$, it is recommended to add surge protection circuits in parallel with the loads. No protection measures may cause the lowering of electrical lifetime or breaking failures.

6) 请使用快速上升沿对带节能板继电器进行线圈驱动。(内置单触发脉冲发生电路)

Please use fast-rising currents to drive the coil of relays with energy-saving board equipped (with single-trigger pulse generating circuit built in).

7) 带节能板继电器在接通0.2s后进行线圈电流自动切换, 不满0.2s的重复闭合操作会引发继电器故障, 因此敬请注意。

Relays with energy-saving board should automatically switch after power-on 0.2s. Please be careful that repeatedly less than 0.2s turning-on cycles would cause relays failures.

8) 建议在无线路板的线路上(带线路板的内置反向电压吸收电路), 使用变阻器或二极管加上齐纳二极管作为保护电路, 吸收继电器线圈OFF时的逆向浪涌电压。将二极管并联连接在线圈上时, 释放时间可能会变慢, 而且有可能降低产品使用寿命, 因此敬请注意。

It is recommended to use varistors or diodes and Zener diodes to build a protection circuit and install it on relays with no energy-saving board. (there is a reverse voltage absorption circuit built in energy-saving board) in order to adsorb the reverse surge voltage caused when the coil is turned off. Please be careful that when a diode is connected in parallel with the coil, the release time may increase and the lifetime of the product may be reduced.

■ 工作、贮存环境条件: Working and storage condition requirements

1) 温度: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ (工作)、 $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ (贮存)

Temperature: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ (working), $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ (storage)

2) 湿度: 5%RH~85%RH (应避免结冰, 凝露)

Humidity: 5%RH~85%RH (no freeze, no condensation)

3) 海拔Altitude: 0m~5000m

4) 关于凝露: 在高温多湿环境下, 温度急剧变化时容易发生结露, 有时会产生继电器绝缘电阻降低等, 因此敬请注意。

Condensation: Condensation phenomenon easily occurs when the temperature changes drastically in a hot and humid environment, and may cause a decrease in insulation resistance of the product.

5) 关于低温、低湿环境: 如果在低温、低湿中长时间放置, 可能会造成塑料脆化, 因此敬请注意。

Low temperature & low humidity environment: If the product is placed in a low temperature and low



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humidity environment for a long time, plastic materials embrittlement may occur.

6) 一般储存环境: 10~30℃和相对湿度不大于70%的干燥、通风、无腐蚀性气体的库房内, 避免任何有害气体、化学污染、静电、潮湿和机械损伤, 不得与化学药品、酸、碱物质一同存放, 贮存时, 应避免机械冲击和重压。

Normal storage environment: Store the product in dry, ventilated and non-corrosive gases environment at 10-30℃ and relative humidity less than or equal to 70%, and avoid any harmful gas, chemical pollutions, static electricity, dampness and mechanical damage. Do not leave the product with chemicals, acids, alkali substances. Avoid mechanical shock and pressure in storage.

7) 勿在真空中使用或储藏本继电器, 否则会使密封结构的老龄化速度加快。

Do not use or store the relays in vacuum. Otherwise the sealing structure aging will accelerate.

■ 产品安装注意事项Products installation precautions

1) 更换继电器或进行配线之前必须关闭电源并确认没有残余电压。

Before replacing or wiring relays, the power source must be shut off and there must be no residual voltage.

2) 继电器的负载端和继电器线圈端极性按外形尺寸图连接(如未标识极性为无极性连接要求), 必须按上图端子配置/内部连接图指示进行连接, 如果负载端极性接反, 将无法达到本文件中所述的切换特性, 如果带节能板的继电器线圈端极性接反, 继电器将损坏无法使用。

The polarity of the relay's load terminal and coil terminal should be connected according to the outline diagram (if polarity is not indicated, it means non-polarized connection is required), and must be connected as indicated in the terminal layout/internal connection diagram shown above. If the load terminals are connected reversely, the electrical endurance described in this document cannot be achieved. If the coils of relays with energy-saving board are connected reversely, the relays would be damaged and could not be used any more.

3) 各部位的螺丝锁紧扭矩请必须控制在上述的规定范围内(参见技术参数)。螺丝松动可能导致通电中产生异常热量而造成火灾。在超过范围的情况下, 可能会造成破损。

Each screw tightening torque must be controlled within the above-specified range (see technical data).

Loose screw may lead to a fire by abnormal heat generated in electricity. Too tight screws will cause mechanical damage.

4) 负载端子安装连接片时, 必须安装方向按照上图图示安装。如果使用其他连接方式绝缘性能将会下降。

Installation of load connectors or bus-bars must refer to the bus-bar installation example shown in the figure above. Other connection solutions will cause decrease of insulation performance.

5) 注意连接铜排孔径、螺栓规格、扭矩大小的配合, 推荐采用下表中的建议值, 否则可能会造成螺纹滑牙或安装不紧的问题, 螺栓尺寸公差等级应满足国标GB/T 197中6g的要求, 螺栓机械性能应满足GB/T 3098.1中8.8级的要求。负载端子安装≤2次, 避免重复安装。

Pay attention to the coordination of the copper busbar hole diameter, bolt specifications, and torque. It is recommended to follow the suggested values in the table below, otherwise, issues such as thread stripping or improper installation may occur. The bolt size tolerance grade should meet the requirements of the national standard GB/T 197, grade 6g. The mechanical properties of the bolt should meet the requirements of GB/T 3098.1, grade 8.8. The load terminal should be installed no more than twice to avoid repeated installations.



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螺纹规格 Thread Specifications	建议安装啮合长度 Suggested Engagement Length for Installation	建议铜排孔径 Recommended Copper Busbar Aperture	建议扭矩大小 Recommended Torque Size
M8	11~12mm	Φ8.0mm~Φ8.4mm	9~11.0N·m

注：安装啮合长度是指在紧固状态螺栓拧入螺纹的深度

Note: The engagement length during installation refers to the depth at which the bolt is threaded in the tightened state

6) 不要在水、溶剂、化学药品或油可能接触到外壳或端子的场合下使用本继电器。否则可能导致外壳树脂老化或因端子腐蚀、污浊而造成异常升温。并且，如果电解液接触到输出端子，输出端子之间可能发生电解，引起端子腐蚀或线路断开。另外，关于所连接的配线母线，推荐使用符合以下要求的产品。

Do not use this product in places where water, solvents, chemicals, or oil, can possibly splash on the product's shell or terminals. These situations may lead to the shell resin aging, or terminals corrosion and pollution. If electrolyte contacts output terminals, electrolytic reaction may occur between these terminals, and then the reaction will cause terminals corrosion or circuit disconnection. In addition, using wiring bus products with the following requirements as connection solutions is highly recommended:

10A型：公称截面积 4mm^2 以上 Type 10A: nominal cross-sectional area $\geq 4\text{mm}^2$
20A型：公称截面积 4mm^2 以上 Type 20A: nominal cross-sectional area $\geq 4\text{mm}^2$
40A型：公称截面积 10mm^2 以上 Type 40A: nominal cross-sectional area $\geq 10\text{mm}^2$
50A型：公称截面积 15mm^2 以上 Type 50A: nominal cross-sectional area $\geq 15\text{mm}^2$
100A型：公称截面积 35mm^2 以上 Type 100A: nominal cross-sectional area $\geq 35\text{mm}^2$
150A型：公称截面积 50mm^2 以上 Type 150A: nominal cross-sectional area $\geq 50\text{mm}^2$
200A型：公称截面积 80mm^2 以上 Type 200A: nominal cross-sectional area $\geq 80\text{mm}^2$
250A型：公称截面积 90mm^2 以上 Type 250A: nominal cross-sectional area $\geq 90\text{mm}^2$
300A型：公称截面积 100mm^2 以上 Type 300A: nominal cross-sectional area $\geq 100\text{mm}^2$
400A型：公称截面积 120mm^2 以上 Type 400A: nominal cross-sectional area $\geq 120\text{mm}^2$
500A型：公称截面积 150mm^2 以上 Type 500A: nominal cross-sectional area $\geq 150\text{mm}^2$
600A型：公称截面积 200mm^2 以上 Type 600A: nominal cross-sectional area $\geq 200\text{mm}^2$
800A型：公称截面积 300mm^2 以上 Type 800A: nominal cross-sectional area $\geq 300\text{mm}^2$
1000A型：公称截面积 400mm^2 以上 Type 1000A: nominal cross-sectional area $\geq 400\text{mm}^2$

7) 将继电器安装在电机、变压器、扬声器、磁铁等产生强磁场部件附近，或者将多个继电器紧密安装时，继电器动作特性可能会发生变化，造成误动作。并且切换期间发生的电弧放电可能因磁场而扭曲，引起飞弧或绝缘故障。请在安装实际动作的状态下进行确认。

If multiple contactors are installed closely or contactors are installed near devices which can provide strong magnetic field such as motors, transformers, speakers, and magnets, the operating characteristics may change and malfunctions may occur. And arcs occurring during the switching process may be distorted by the magnetic field, causing flash-over arcing or insulation failure. Please avoid this situation and confirm the contactors work



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well in actual operation conditions.

8) 请避免安装在发热物体附近。

Please avoid installing the product near hot objects or objects which will produce heat.

9) 相邻安装多个继电器时, 请注意热量、磁场相互干扰所引起的异常发热, 以及继电器外部的端子间或铜排的绝缘距, 在大电流下通电导体磁场干扰有可能导致故障请及时联系。

When installing multiple contactors adjacent to each other, be careful of abnormal heat caused by mutual heat interference, and the insulation distance between the external terminals of contactors.

10) 搬运继电器时禁止提拉引导线或引出的接插件, 可能会导致导线松动或断线, 无法导通。

Do not hold or drag connector terminals or the connecting wires when moving the contactors, because it may cause the wire or connector loose or broken, and thus unable to work.

11) 进行连接器端子的连接时, 对方侧应使用指定的连接器。

When connecting the connector terminals to loads, use the specified connectors on loads.

12) 在安装母线时, 请勿向端子施加过度的负载, 否则可能会造成通断性能故障。

When installing bus-bars, do not apply excessive torque to the terminals. Otherwise it may cause on-off performance failure.

13) 过电流的保证范围仅限单通电。反复通电时, 可能会由于过热导致故障, 请实装后确认, 需反复过电流时, 各部位温度需恢复到允许的环境温度后再通下一次过电流。

The guaranteed range for overcurrent is limited to single energization. Repeated energization may cause failure due to overheating. Please verify after installation. If multiple overcurrent tests are required, the temperature of all components must return to the allowable ambient temperature before the next overcurrent test.

■ 电气寿命Electrical Endurance

1) 继电器单品掉落的情况下, 请勿使用。否则不但会使继电器无法达到性能规格, 还会致其受损、人员触电或起火。

If a contactor drops out to ground, stop using it. Because this product is probably unable to meet its performance specifications, and using it has the potentials of more serious contactor damage, electric shock to people, or fire.

2) 本继电器是用于切换高 DC电压的设备, 因此最终故障模式可能是导致不能切断, 为此, 请勿超过规格中记载的切断能力、次数来使用。(作为寿命有限的商品, 请及时更换)

This product is designed for switching high DC voltage equipment, so the final failure mode is possibly disability to disconnect circuits. Therefore when using, do not exceed the cutoff capacity specified in this document. And since it is a goods with limited usage life, please replace it on time.

3) 关于开闭寿命, 是在标准试验状态(温度15℃-35℃、湿度25%RH-85%RH)下得出的值, 开闭寿命因线圈驱动电路、负载种类、开闭频率、周围环境等而异, 因此请通过实际机器进行确认。

The electrical endurance is a value measured under standard test conditions (temperature 15℃-35℃, humidity 25%RH-85%RH). The electrical endurance would vary depending on the coil drive circuits, load types, switching frequencies, ambient environment. Therefore, please choose the right products according to actual using environment.

4) 高温下使用时, 可能会对电气寿命产生影响, 因此请在实际使用条件下进行确认。

The electrical endurance might be affected in high temperature, so please make sure only use this product under specified temperature range.

5) 开闭频率较快的情况下, 电气寿命可能会降低, 因此请确认实际使用时出现的异常模式等是否会引



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发高频率的开闭。

The electrical endurance might decrease at high switching frequency, so please check whether failure modes would cause high-frequency switching when using

6) 上述电气寿命值为阻性负载测试值。感性负载的电气寿命比阻性负载短。应在实际运行条件下确认运行正确与否。

The electrical endurance value above is tested with resistive loads. The electrical lifetime tested with inductive loads is usually shorter

7) 使用电容负载(C负载)时,请在电容负载上采取预备充电等对策,使得冲击电流保持在额定电流的10%以下,如未采取对策,可能会造成触点粘连。

When using capacitive loads, apply measures such as preparatory charging on the loads, so that the inrush current can be limited below 10% of the rated current. If no such measures are applied, contact welding may occur.

8) 使用 $L/R > 1\text{ms}$ 的感应负载(L负载)时,请在感应负载上采取浪涌吸收对策。如未采取对策,可能会造成电气寿命缩短、切断不良。

When using inductive loads with $L/R > 1\text{ms}$, apply surge absorption measures on the loads to avoid shortening electrical endurance, or circuit cutoff failure.

9) 超过线圈额定值、触点额定值、开闭寿命等规格范围使用的情况下,可能会引起异常发热和冒烟,因此敬请注意。

Abnormal heating and smoking may happen when technical values in coil, contact, and lifespan parts exceeding their specified range.

■ 接触电阻Contact Resistance

1) 在无负载的情况下开闭时,接触电阻可能会上升,因此请在最小适用负载以上使用。

When switching without loads, the contact resistance may increase. So please use the product with the minimum applicable load

2) 长时间未对触点进行开闭的情况下,触点表面会因有机皮膜的生成等而出现接触不稳定的情况,因此请务必注意。

If the contacts have not been used for a long time, the contact surfaces may not be stable due to the formation of organic films