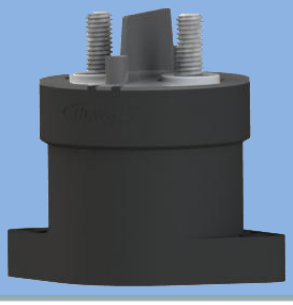
High Voltage DC Contactor

GL350 直流接触器



✧ 产品概述 Features

型号 Type	GL350
触点形式 Contact Arrangement	一组常开 1 Form A
触点材料 Contact Material	铜合金 Copper alloy
表面处理(静触点) Surface Treatment(Static Contact)	无 None
密封类型 Seal Type	陶瓷密封 Ceramic seal
外形尺寸 Outline(L×W×H)	80.4mm×57mm×72.5mm
重量 Unit Weight	380×(1±7%)g

✧ 线圈额定参数 Coil Rating

额定电压 Rated Voltage VDC	驱动方式 Driving Mode	最大工作电压 Max. Operating Voltage VDC	动作电压 Operate Voltage VDC (at 23℃)	释放电压 Release Voltage VDC(at 23℃)	线圈电阻 Coil Resistance Ω(at 23℃)	线圈额定功率 Rated Power W (at 23℃)
12～36	PWM	36	≤8.5	≥4.5	5.3×(1±7%)	启动：约 27W（接通 0.3s） Switch on: Approx. 27W (making 0.3s) 保持：约 2W Carrying: Approx. 2W

12	双线圈 Dual coil	16	≤8.5	≥0.6	启动： 3.1×(1±7%) Switch on: 3.1×(1±7%) 保持： 53×(1±7%) Carrying: 53×(1±7%)	启动：约 46W （接通 0.3s） Switch on: Approx. 46W (making 0.3s) 保持：约 2.8W Carrying: Approx. 2.8W
24		32	≤15	≥1.2	启动： 15.3×(1±7%) Switch on: 15.3×(1±7%) 保持： 270×(1±7%) Carrying: 270×(1±7%)	启动：约 37.6W （接通 0.3s） Switch on: Approx. 37.6W (making 0.3s) 保持：约 2.2W Carrying: Approx. 2.2W

注 Notes

1.双线圈接触器内置单触发脉冲发生电路，请通过快速上升沿（脉冲式供电方式）驱动线圈（快速上升沿时间≦1ms），否则接触器可能无法正常工作；

The Dual coil Contactor built-in single trigger pulse generator circuit, please go through the rising edge, (pulse power supply mode) to drive coil, (the time of the rising edge is less than or equal to 1ms), otherwise the contactor will not work properly.

2.双线圈接触器闭合约300ms后线圈电流自动切换，不满300ms的重复切换操作可能会导致接触器无法正常工作。

After the Dual coil contactor closes about 300ms, the coil current automatically switches, failure to meet 300ms repeated switching operation may cause the contactor fail to work properly.

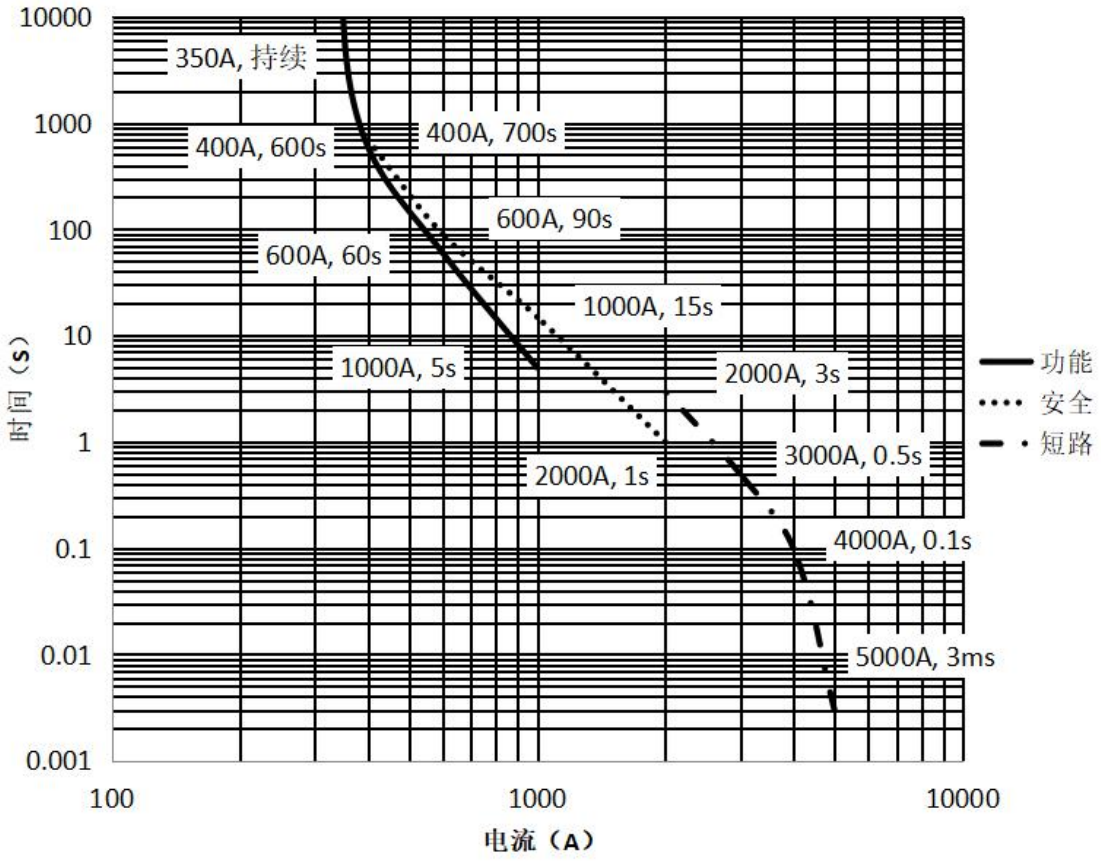
✧ 触点参数 Contact Specification

额定工作电流 Rated Current	350A(导体截面积 240mm²) 350A(Wire 240mm²)
最大切断电流 Max. Breaking Current	2000A 320VDC 1 次(op)
工作电压范围 Working Voltage Range	12-800VDC
最小负载 Min. Load	1A 12VDC
接触电阻 Contact Resistance	＜0.4mΩ(at 350A)

电流耐受(导体截面积 240mm², 23℃)	350A	持续 cont.
Current Endurance(Wire 240mm², 23℃)	400A	10min
	600A	1min
	2000A	1s

电流耐受能力

Current Endurance



注 Notes

1.环境温度为23℃，导线截面积≥240mm²；

The ambient temperature is 23℃,and the cross-sectional area of the wire is ≥240mm²;

2.该曲线设定功能温升温度上限为130℃，适合于长时工作制；安全温升温度上限为180℃，适合于短时工作制，如果温度超过180℃，接触器可能起火；

The upper limit of the function temperature rise is 130℃,which is suitable for long-time working; and the upper limit of the safe temperature rise is 180℃,which is suitable for short-time working; If the temperature exceeds 180℃,the contactor may catch fire.

3.≥2000A长时工作，接触器可能会粘连，但不起火，不爆炸。

The contactor may stick when the current is greater than 2000A for a long-time, but it will not catch fire or explode.

4.≥5000A时，接触器触头很可能发生斥开，如果保险丝不能及时熔断，那么接触器可能发生起火、爆炸。

The contactor contacts may be repulsed when the current is greater than 5000A if the fuse does not blow out in time, the contactor may catch fire or explode.

✧ 耐久性 Endurance

电耐久性 Electrical Endurance	通断(Making & Breaking) 350A 450VDC 400 次(ops) 350A 750VDC 200 次(ops) 切断(Breaking) 400A 750VDC 50 次(ops) -300A 320VDC 12 次(ops) 接通(Making) 200A 20VDC 100,000 次(ops)
短路电流 Short Ciruit Current	5000A(3ms)不烧、不炸 With no fire or explosion
机械耐久性 Mechanical Endurance	300,000 次(ops)

注 Note

1.如无特殊说明，电耐久性测试条件为常温，通断比为0.6s:5.4s。

Unless specified, Electrical Endurance tests are conducted in room temperature. Operating frequency:0.6s on, 5.4s off.

✧ 性能参数 Performance

绝缘电阻(断开触点间) Insulation Resistance (Between open contacts)	试验前Before Test:≥1000MΩ(at 1000VDC) 试验后After Test:≥50MΩ(at 1000VDC)
绝缘电阻(触点与线圈间) Insulation Resistance (Between contacts and coil)	试验前Before Test:≥1000MΩ(at 1000VDC) 试验后After Test:≥50MΩ(at 1000VDC)
介质耐压(断开触点间,漏电流≤1mA) Dielectric Strength (Between open contacts, leak current≤1mA)	试验前Before Test:≥2500VAC，(50/60 Hz 1min) 试验后After Test:≥1875VAC，(50/60 Hz 1min)
介质耐压(触点与线圈间,漏电流≤1mA) Dielectric Strength (Between contacts and coil,leak current ≤1mA)	试验前Before Test:≥2500VAC，(50/60 Hz 1min) 试验后After Test:≥1875VAC，(50/60 Hz 1min)
动作时间(线圈额定电压下，23℃) Operate Time (At rated coil voltage, 23℃)	≤25ms

释放时间(线圈额定电压下，23℃) Release Time (At rated coil voltage, 23℃)	≤10ms
回跳时间(线圈额定电压，23℃) Bounce Time (At rated coil voltage, 23℃)	≤5ms
耐冲击-误动作冲击 Shock - Functional	半正弦波，11ms，196m/s² 1/2 sine，11ms，196m/s²
耐冲击-强度冲击 Shock - Destructive	半正弦波，6ms，490m/s² 1/2 sine，6ms，490m/s²
随机振动 Vibration	10-2000 Hz，57.9m/s²

✧ 标准测试条件 Standards Test Condition

温度 Temperature	23±5℃
湿度 Humidity	25%～75%RH
方向 Direction of Measurement	竖直 Vertical

✧ 使用条件 Operating Condition

触点允许的最高温度(长时) Maximum allowable temperature of contacts(Long-time)	130℃
触点允许的最高温度(短时) Maximum allowable temperature of contacts(Short-time)	180℃
温度 Temperature	-40℃～+85℃
湿度 Humidity	5%～85%RH
海拔 Altitude	≤4000m
安装方向 Mounting Direction	竖直 Vertical

✧ 贮存条件 Storage Condition

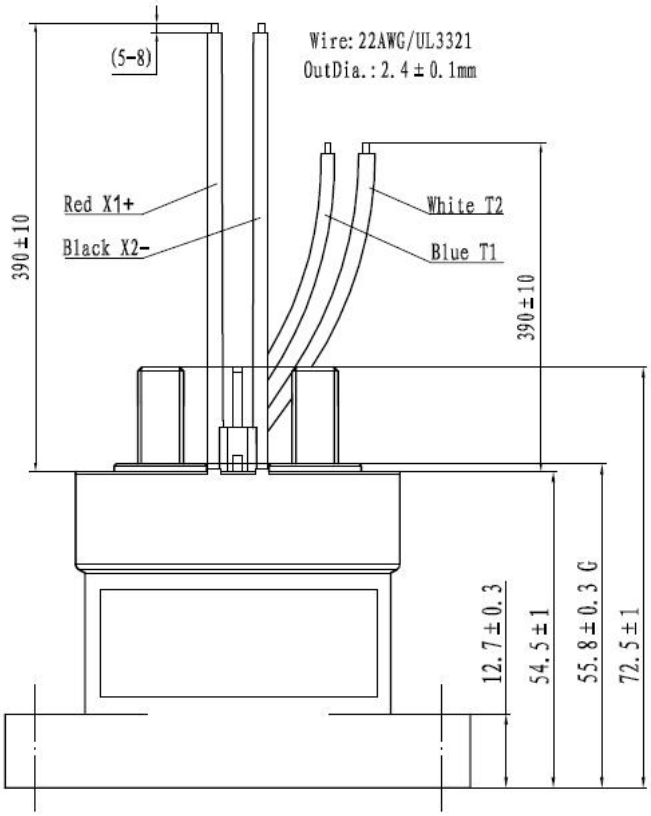
温度 Temperature	5℃～30℃
湿度 Humidity	35%～70%RH

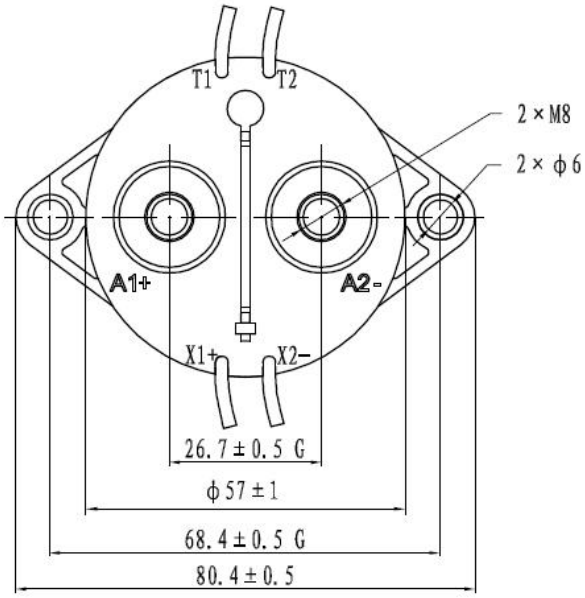
✧ 产品编号规则 Product Code Structure

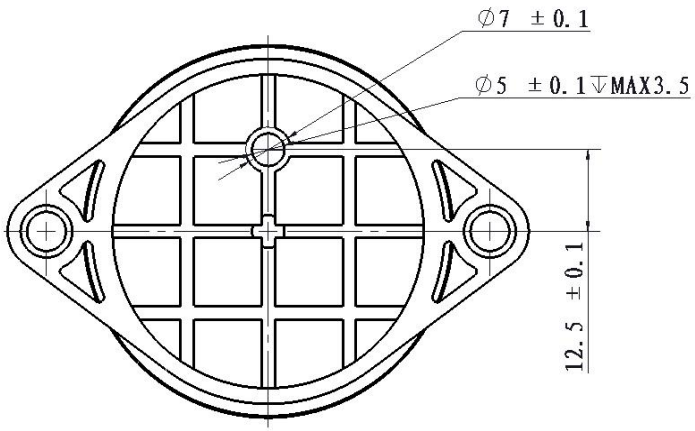
GL350	A	A	A	N	A	XXXXX
产品型号 Product Type						
触点形式 Contact Form	A: 一组常开 1 Form A H: 常开带辅助触点 Normally open with auxiliary contacts					
线圈电压 Coil Voltage	A:12～36VDC S:12VDC T:24VDC					
线圈引出形式 Coil Lead Form	A:引出线形式，长度 390mm A:Lead out by Wire,Length:390mm B:引出线形式，长度 150mm B:Lead out by Wire,Length:150mm T:客户指定 T:Customer specified N:无 N:none					
线圈引出端连接器 Coil Terminal	K:带连接器 K:With Connector N:不带连接器 N:Without Connector					
本体安装及负载引出形式 Contactor Mounting& Load Lead Form	A:立式安装，外螺纹 A:Upright Mount,External Thread P:无安装脚，外螺纹 P:No Mounting,External Thread T:无安装脚，内螺纹 T:No Mounting,Internal Thread					
客户代码 Customer Code	客户需求（当客户存在特殊需求时使用） Customer demand(Customer demand only for special requirements)					

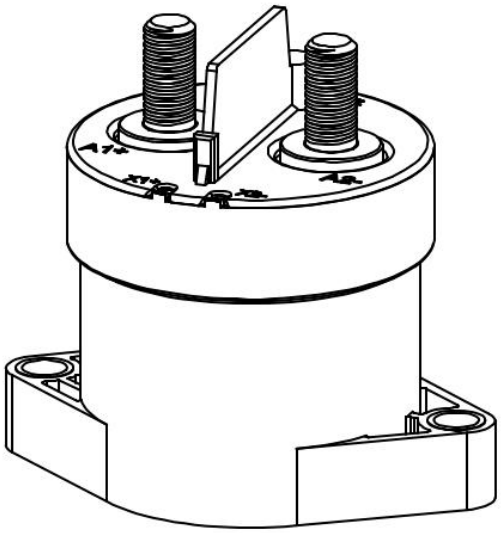
✧ 外形图 Outline Dimensions

产品型号 Product model：GL350HAANA

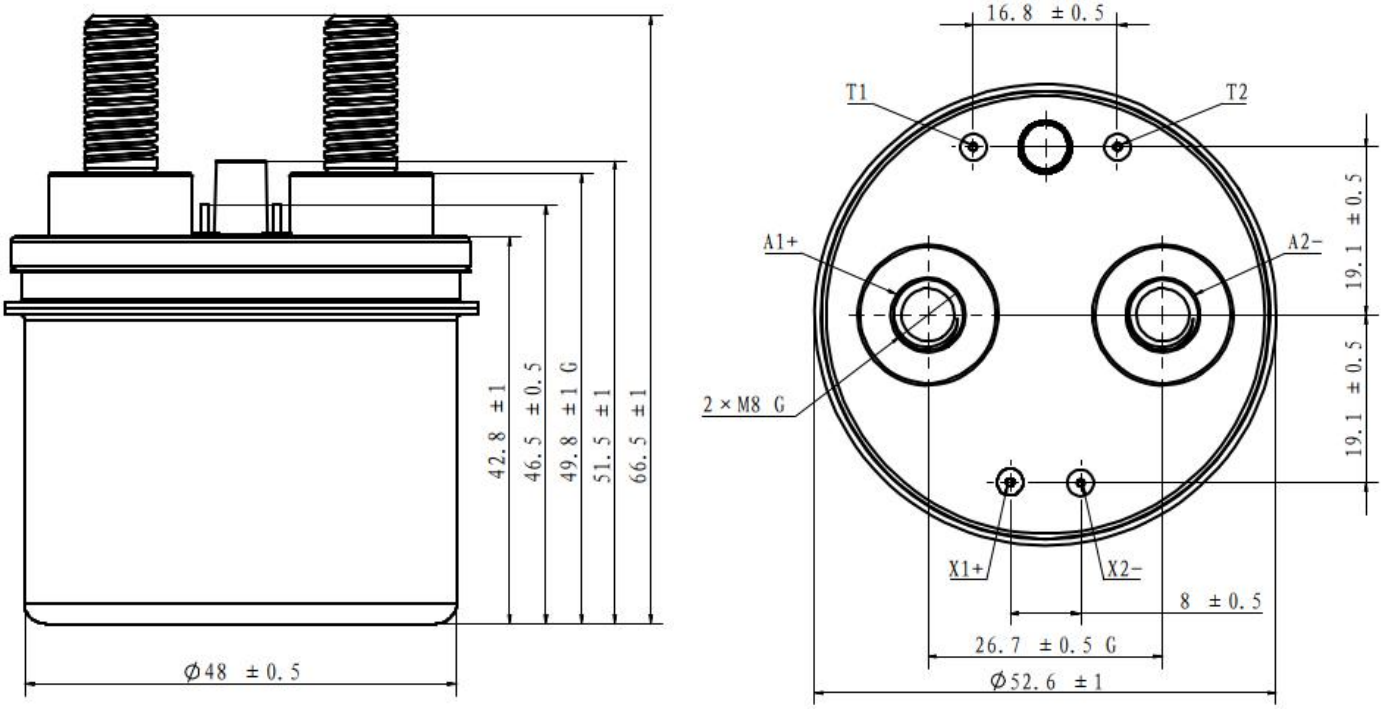


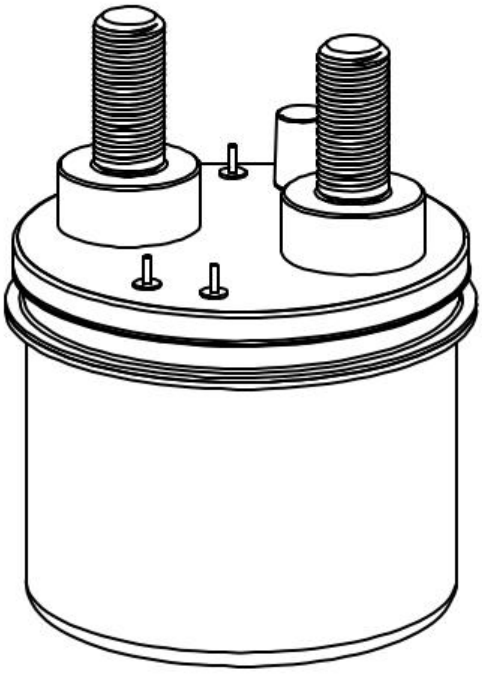




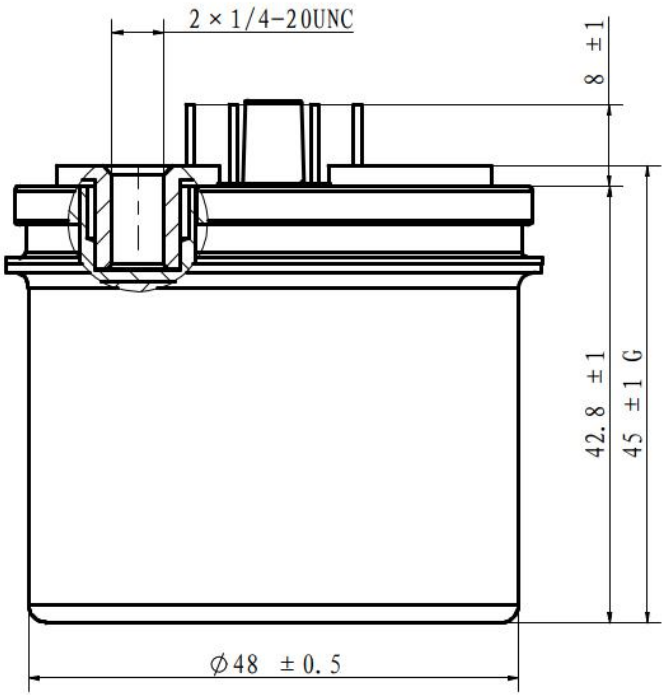


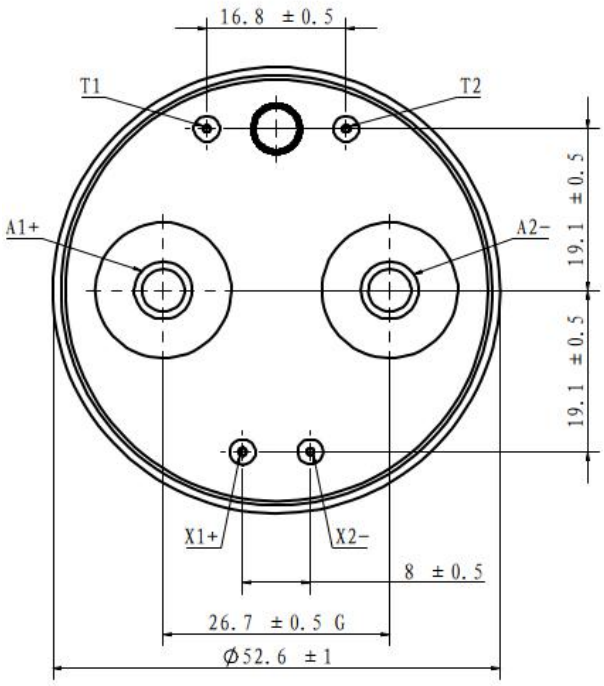
产品型号 Product model：GL350HANNP

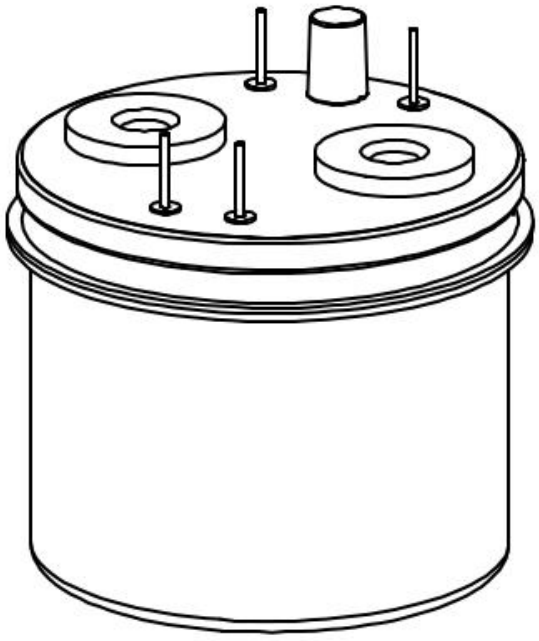




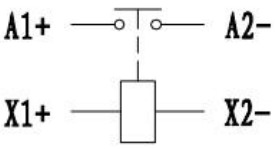
产品型号 Product model：GL350HANNT

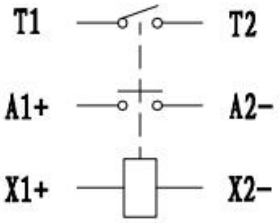






✧ 接线图 Wiring Diagram





负载有极性，线圈有极性,辅助触点无极性

The load is polar, the coil has polarity, the auxiliary contact is nonpolar.

注 Notes

1.“G”标记为重要管控尺寸；

The sizes marked with “G” are critical;

2.产品外形尺寸未注公差：

Outline dimensions had not specified tolerance:

尺寸 Dimension(mm)	＜10	10～50	＞50
公差 Tolerance(mm)	±0.3	±0.5	±0.8

应用信息 Application Notes

1. 产品完全符合RoHS要求，对环境更友好。
   Products meet RoHS and are better for the environment.
2. 当接触器使用1个及多个导电铜排连接时，请确保导电铜排与触点端面紧密贴合(多个铜排需确保大电流的导电铜排最贴近触点端面，小电流的导电铜排其次)，然后是平垫圈、弹簧垫圈、螺钉。不正确的连接顺序可能造成严重过热。
   When contactor is connected with one or more busbars, please ensure that the busbars are tightly fitted to the contact terminal face (when there are multiple busbars, please ensure that the busbar with large current is closest to the contact terminal face, and the busbars with low current come next), then the flat washer, spring washer and screw. Incorrect connection order can cause severe overheating.

产品类型 Contact type	连接示意图 Connection diagram
内螺纹型 Internal thread	
外螺纹 External Thread	

3. 安装时请避免附着异物、油脂类及腐蚀性液体，否则会导致接触器触点端发热异常。
   Please avoid foreign bodies, grease or corrosive liquids during installation, otherwise it will lead to abnormal heating at contact terminals.
4. 请避免在强磁界(变压器、磁铁的周围)和发热物体的附近安装。
   Please avoid installation in strong magnetic field(around the transformers, the magnet)and the heating objects nearby.
5. 接触器安装的锁紧力矩请控制在下表规定范围内，超过范围可能导致螺纹损坏。
   Please control the tightening torque during installation within the scope specified in the table below, exceeding the range may cause thread damage.

负载端安装部分 Fixing of Contact					
安装方式 Typical Installation	扭矩要求 Torque	破坏扭矩 Destructive Torque	建议铜排厚度 Recommended Copper Bar Thickness	建议铜排平面度 (安装面) Recommended Copper Bus Flatness (Mounting Surface)	建议铜排孔径 Recommended Copper Bar Aperture
M8 螺母 M8 nut	9～10N•m	≥12N•m	2～3mm	0.1	Φ8.1～8.5mm
1/4 螺钉 1/4 screw	6～8 N•m	≥10N•m	2～3mm	0.1	Φ7～7.5mm

本体安装部分 Fixing of Body		
安装方式 Typical Installation	扭矩要求 Torque	破坏扭矩 Destructive Torque
M5 螺栓 M5 screw	3～4N•m	≥15N•m

6. 接触器内部线圈驱动端已内置反峰电压抑制元件，外部驱动电路无需再增加反峰电压抑制措施。
   Contactor has internal transorb for coil suppression.The external drive circuit does not need to add antipeak voltage suppression measures.
7. 接触器应用在容性负载回路时，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。如未采取措施，可能会造成触点粘连。
   In a capacitive load, please pre-charge the capacitive load to make sure voltage difference less than 20V when contactor pick up. The contactor may have a contact welding without such action.
8. 接触器应用在感性负载回路时，建议对感性负载并联加装浪涌吸收措施。如未采取措施，可能导致接触器切断能力有所下降。
   In an inductive load, a parallel connection with surge absorber is recommended in the inductive load. It may weaken the break performance if without such protection.
9. 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，严禁将继电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. Contactor are forbidden to be used at the temperature beyond our suggestion -40 ℃～85 ℃ for long time.

10. 请避免接触器在使用或运输过程中发生撞击或跌落。为保持接触器的性能，撞击或跌落后的接触器不建议继续使用。

    Please avoid collision or fall in transit or use. To ensure the product performance, please do not use the contactor if there was a collision or fall.

11. 接触器触点端面部分镀银，需要密封保存，长期暴露在空气中，触点端面会氧化和硫化，导致发黄发黑，如长期不安装使用，密封环境下，保存期限为 1 年。

    The contactor end surface of the contact is partly silver-plated and needs to be sealed and stored. If exposed to the air for a long time, the contactor end surface will be oxidized and vulcanized, resulting in yellowing and blackening. If it is not installed and used for a long time, the shelf life is 1 year in a sealed environment.

12. 如需获取更多信息与支持，请联系昆山国力源通新能源科技有限公司。

    Please contact GuoLi YuanTong for more information or support.