

HITIO®

和诚电气

DC RELAY PRODUCT CATALOGUE

直流继电器产品样册

浙江和诚智能电气有限公司

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APPLICATION AREA

应用领域

新能源汽车

New Energy Vehicle

储能

Energy Storage

光伏

Photovoltaic

充电桩、换电站

Charging Pile、Changing Station



产品介绍 PRODUCT INTRODUCTION

直流继电器 DIRECT CURRENT RELAY



特性 Features:

- 环氧树脂密封结构，腔体内充有特殊混合气体，无电弧泄露风险，接触电阻低且稳定
Epoxy resin sealing internal design, filled with special mixed gas; No risk of arc leakage; Low & stable contact resistance;
- 无极性灭弧设计，安装方向不敏感，适用回路双向电流的各种场景，使用安全可靠；
Non-polarity arc extinguishing design that is applicable to a range of scenarios with bidirectional current circuit safely and reliably;
- 全系列产品满足1000Vdc电压平台要求，部分系列产品满足1500Vdc电压平台要求；
The whole series of HVDC contactors are able to work under rated 1000Vdc, and part of them reach 1500Vdc;
- 产品符合CE、UL、RoHS、REACH要求；
CE, UL, RoHS, REACH compliant;

产品型号 Product Model

H	C	Z01	50	F	-A	P	- ()
HC 公司代码 Company Code							
系列代码 Series Code Z01: Z01、Z02、Z03系列 Series							
触点容量 (额定电流) Contact Rating (Rated Current) 50:50A; 100:100A; 150:150A; 200:200A; 250:250A; 300:300A; 400:400A; 500:500A; 600:600A							
辅助触点 Auxiliary Contact 无Nil: 无辅助触点 No Auxiliary Contact; F: 一组常开 SPST-NO; B: 一组常闭 SPST-NC							
线圈电压 Coil Voltage 12: 12VDC; 24: 24VDC; 48: 48VDC; A: 9-36VDC							
主触点形式 Main Contact Type 无Nil: 一组常开, 无极性 SPST-NO, Non-Polarized P: 一组常开, 有极性 SPST-NO, Polarized							
特性号 Special Code XXX: 客户特殊要求 Customer Special Code; 无Nil: 标准型 Standard							



特性参数 CHARACTERISTIC PARAMETER

产品型号		HCZ01-150	HCZ01-200
产品图片			
主触点参数 MAIN CONTACT DATA			
最大工作电压 Max. Switching Voltage		1000VDC	1000VDC
额定电流 Rated Current		150A	200A
触点形式 Contact Arrangement		一组常开 SPST-NO	一组常开 SPST-NO
触点压降 Contact Voltage Drop		≤0.06V(at 150A)	≤0.06V(at 200A)
短时承载电流 Limiting Short-time Current		200A:600s; 400A:60s;	300A:900s; 400A:180s;
电寿命(阻性负载) Electrical Life (Resistive Load)		150A 450VDC 6000次(ops) 150A 750VDC 3000次(ops) 150A1000VDC 1500次(ops)	200A 450VDC 6000次(ops) 200A 750VDC 2000次(ops) 200A1000VDC 1000次(ops)
最大分断电流(阻性负载) Max. Breaking Current (Resistive Load)		1800A 320VDC 1次(ops)	2000A 320VDC 1次(ops)
过载分断(阻性负载) Overload Breaking (Resistive Load)		/	/
辅助触点参数 AUXILIARY CONTACT DATA			
辅助触点 Auxiliary Contact		可选配 Optional	可选配 Optional
辅助触点形式 Auxiliary Contact Arrangement		一组常开 SPST-NO 一组常闭 SPST-NC	一组常开 SPST-NO 一组常闭 SPST-NC
辅助触点电流范围 Auxiliary Contact Current Range		/	/
线圈参数 COIL DATA			
额定电压 Rated Voltage		9-36VDC	9-36VDC
吸合电压 Pick-up Voltage		≤9VDC	≤9VDC
释放电压 Drop-out Voltage		≥6VDC	≥6VDC
线圈功率 Rated Operating Power		启动功率: 约 Approx 40W 保持功率: 约 Approx 2.2W	启动功率: 约 Approx 40W 保持功率: 约 Approx 2.2W
最大允许电压 Max. Allowable Voltage		/	/
性能参数 CHARACTERISTICS DATA			
介电耐压 Dielectric Strength	触点与线圈间 Between Contact And Coil	3500VAC 1min	3500VAC 1min
	断开线圈间 Between Open Contact	3500VAC 1min	3500VAC 1min
绝缘电阻 Insulation Resistance	触点与线圈间 Between Contact And Coil	1000MΩ(1000VDC)	1000MΩ(1000VDC)
	断开线圈间 Between Open Contact	1000MΩ(1000VDC)	1000MΩ(1000VDC)
耐冲击 Shock Resistance	功能性 Functional	20G 半正弦波 Half-sine Wave 11ms	20G 半正弦波 Half-sine Wave 11ms
	强度 Destructive	50G 半正弦波 Half-sine Wave 6ms	50G 半正弦波 Half-sine Wave 6ms
耐振动 Vibration Resistance	功能性 Functional	49m/s ² (10~500Hz)	49m/s ² (10~500Hz)
吸合时间 Operate Time		Max:30ms	Max:30ms
释放时间 Release Time		Max:10ms	Max:10ms
机械寿命 Mechanical Life		2*10 ⁵ 次(ops)	2*10 ⁵ 次(ops)
重量 Weight		约 Approx 380g	约 Approx 380g



特性参数 CHARACTERISTIC PARAMETER

产品型号		HCZ01-250	HCZ01-300
产品图片			
主触点参数 MAIN CONTACT DATA			
最大工作电压 Max. Switching Voltage		1000VDC	1000VDC
额定电流 Rated Current		250A	300A
触点形式 Contact Arrangement		一组常开 SPST-NO	一组常开 SPST-NO
触点压降 Contact Voltage Drop		≤0.06V(at 250A)	≤0.05V(at 300A)
短时承载电流 Limiting Short-time Current		350A:900s; 500A:180s;	450A:480s; 600A:30s;900A:6s;
电寿命(阻性负载) Electrical Life (Resistive Load)		250A 450VDC 3000次(ops) 250A 750VDC 1000次(ops) 250A 1000VDC 500次(ops)	300A 450VDC 1000次(ops) 300A 750VDC 500次(ops) 300A 1000VDC 100次(ops)
最大分断电流(阻性负载) Max. Breaking Current (Resistive Load)		2000A 320VDC 1次(ops)	2000A 320VDC 1次(ops)
过载分断(阻性负载) Overload Breaking (Resistive Load)		/	/
辅助触点参数 AUXILIARY CONTACT DATA			
辅助触点 Auxiliary Contact		可选配 Optional	可选配 Optional
辅助触点形式 Auxiliary Contact Arrangement		一组常开 SPST-NO 一组常闭 SPST-NC	一组常开 SPST-NO 一组常闭 SPST-NC
辅助触点电流范围 Auxiliary Contact Current Range		/	/
线圈参数 COIL DATA			
额定电压 Rated Voltage		9-36VDC	9-36VDC
吸合电压 Pick-up Voltage		≤9VDC	≤9VDC
释放电压 Drop-out Voltage		≥6VDC	≥6VDC
线圈功率 Rated Operating Power		启动功率: 约 Approx 40W 保持功率: 约 Approx 2.2W	启动功率: 约 Approx 40W 保持功率: 约 Approx 2.2W
最大允许电压 Max. Allowable Voltage		/	/
性能参数 CHARACTERISTICS DATA			
介质耐压 Dielectric Strength	触点与线圈间 Between Contact And Coil	3500VAC 1min	3500VAC 1min
	断开线圈间 Between Open Contact	3500VAC 1min	3500VAC 1min
绝缘电阻 Insulation Resistance	触点与线圈间 Between Contact And Coil	1000MΩ(1000VDC)	1000MΩ(1000VDC)
	断开线圈间 Between Open Contact	1000MΩ(1000VDC)	1000MΩ(1000VDC)
耐冲击 Shock Resistance	功能性 Functional	20G 半正弦波 Half-sine Wave 11ms	20G 半正弦波 Half-sine Wave 11ms
	强度 Destructive	50G 半正弦波 Half-sine Wave 6ms	50G 半正弦波 Half-sine Wave 6ms
耐振动 Vibration Resistance	功能性 Functional	49m/s ² (10~500Hz)	49m/s ² (10~500Hz)
吸合时间 Operate Time		Max:30ms	Max:30ms
释放时间 Release Time		Max:10ms	Max:10ms
机械寿命 Mechanical Life		2*10 ⁵ 次(ops)	2*10 ⁵ 次(ops)
重量 Weight		约 Approx 380g	约 Approx 380g



特性参数 CHARACTERISTIC PARAMETER

产品型号		HCZ02-50			HCZ02-100		
产品图片							
主触点参数 MAIN CONTACT DATA							
最大工作电压 Max. Switching Voltage		1500VDC			1000VDC		
额定电流 Rated Current		50A			100A		
触点形式 Contact Arrangement		一组常开 SPST-NO			一组常开 SPST-NO		
触点压降 Contact Voltage Drop		≤0.1V(at 50A)			≤0.1V(at 100A)		
短时承载电流 Limiting Short-time Current		150A:30s; 250A:10s;			150A:7200s; 200A:600s;300A:120s; 400A:30s;		
电寿命(阻性负载) Electrical Life (Resistive Load)		50A 450VDC 10000次(ops) 50A 750VDC 3000次(ops) 50A 1000VDC 1000次(ops) 15A 1500VDC 1000次(ops)			100A 450VDC 6000次(ops) 100A 750VDC 1000次(ops) 100A 1000VDC 500次(ops)		
最大分断电流(阻性负载) Max. Breaking Current (Resistive Load)		400A 320VDC 1次(ops)			400A 320VDC 1次(ops)		
过载分断(阻性负载) Overload Breaking (Resistive Load)		/			/		
辅助触点参数 AUXILIARY CONTACT DATA							
辅助触点 Auxiliary Contact		可选配 Optional			可选配 Optional		
辅助触点形式 Auxiliary Contact Arrangement		一组常开 SPST-NO			一组常开 SPST-NO		
辅助触点电流范围 Auxiliary Contact Current Range		30mA/5VDC; 1A/125VAC			/		
线圈参数 COIL DATA							
额定电压 Rated Voltage		12VDC	24VDC	48VDC	12VDC	24VDC	48VDC
吸合电压 Pick-up Voltage		≤9VDC	≤18VDC	≤36VDC	≤9VDC	≤18VDC	≤36VDC
释放电压 Drop-out Voltage		≥1VDC	≥2VDC	≥4VDC	≥1VDC	≥2VDC	≥4VDC
线圈功率 Rated Operating Power		约 Approx 5.5W	约 Approx 6W	约 Approx 6W	约 Approx 5.5W	约 Approx 6W	约 Approx 6W
最大允许电压 Max. Allowable Voltage		16VDC	32VDC	64VDC	16VDC	32VDC	64VDC
性能参数 CHARACTERISTICS DATA							
介质耐压 Dielectric Strength	触点与线圈间 Between Contact And Coil	3000VAC 1min			3000VAC 1min		
	断开线圈间 Between Open Contact	2200VAC 1min			2200VAC 1min		
绝缘电阻 Insulation Resistance	触点与线圈间 Between Contact And Coil	1000M.Ω(1000VDC)			1000M.Ω(1000VDC)		
	断开线圈间 Between Open Contact	1000M.Ω(1000VDC)			1000M.Ω(1000VDC)		
耐冲击 Shock Resistance	功能性 Functional	20G 半正弦波 Half-sine Wave 11ms			20G 半正弦波 Half-sine Wave 11ms		
	强度 Destructive	50G 半正弦波 Half-sine Wave 6ms			50G 半正弦波 Half-sine Wave 6ms		
耐振动 Vibration Resistance	功能性 Functional	49m/s ² (10~500Hz)			49m/s ² (10~500Hz)		
吸合时间 Operate Time		Max:30ms			Max:30ms		
释放时间 Release Time		Max:10ms			Max:10ms		
机械寿命 Mechanical Life		2*10 ⁵ 次(ops)			2*10 ⁵ 次(ops)		
重量							



特性参数 CHARACTERISTIC PARAMETER

产品型号		HCZ03-400		HCZ03-500	
产品图片					
主触点参数 MAIN CONTACT DATA					
最大工作电压 Max. Switching Voltage		1500VDC		1500VDC	
额定电流 Rated Current		400A		500A	
触点形式 Contact Arrangement		一组常开 SPST-NO		一组常开 SPST-NO	
触点压降 Contact Voltage Drop		≤0.03V(at 400A)		≤0.03V(at 500A)	
短时承载电流 Limiting Short-time Current		500A:300s; 1000A:25s;		600A:400s; 1000A:40s;	
电寿命(阻性负载) Electrical Life (Resistive Load)		400A 750VDC 1500次(ops) 300A 1000VDC 1000次(ops) 200A 1500VDC 500次(ops)		500A 750VDC 1200次(ops) 400A 1000VDC 500次(ops) 200A 1500VDC 800次(ops)	
最大分断电流(阻性负载) Max. Breaking Current (Resistive Load)		3000A 320VDC 1次(ops)		3000A 320VDC 1次(ops)	
过载分断(阻性负载) Overload Breaking (Resistive Load)		/		/	
辅助触点参数 AUXILIARY CONTACT DATA					
辅助触点 Auxiliary Contact		可选配 Optional		可选配 Optional	
辅助触点形式 Auxiliary Contact Arrangement		一组常开 SPST-NO 一组常闭 SPST-NC		一组常开 SPST-NO 一组常闭 SPST-NC	
辅助触点电流范围 Auxiliary Contact Current Range		/		/	
线圈参数 COIL DATA					
额定电压 Rated Voltage		24VDC	9-36VDC	24VDC	9-36VDC
吸合电压 Pick-up Voltage		≤18VDC	≤9VDC	≤18VDC	≤9VDC
释放电压 Drop-out Voltage		≥2VDC	≥6VDC	≥2VDC	≥6VDC
线圈功率 Rated Operating Power		约 Approx 6W	启动功率: 约 Approx 44W 保护功率: 约 Approx 4W	约 Approx 6W	启动功率: 约 Approx 44W 保护功率: 约 Approx 4W
最大允许电压 Max. Allowable Voltage		32VDC	/	32VDC	/
性能参数 CHARACTERISTICS DATA					
介质耐压 Dielectric Strength	触点与线圈间 Between Contact And Coil	4500VAC 1min		4500VAC 1min	
	断开线圈间 Between Open Contact	4500VAC 1min		4500VAC 1min	
绝缘电阻 Insulation Resistance	触点与线圈间 Between Contact And Coil	1000MΩ(1000VDC)		1000MΩ(1000VDC)	
	断开线圈间 Between Open Contact	1000MΩ(1000VDC)		1000MΩ(1000VDC)	
耐冲击 Shock Resistance	功能性 Functional	20G 半正弦波 Half-sine Wave 11ms		20G 半正弦波 Half-sine Wave 11ms	
	强度 Destructive	50G 半正弦波 Half-sine Wave 6ms		50G 半正弦波 Half-sine Wave 6ms	
耐振动 Vibration Resistance	功能性 Functional	49m/s ² (10~500Hz)		49m/s ² (10~500Hz)	
吸合时间 Operate Time		Max:50ms		Max:50ms	
释放时间 Release Time		Max:30ms		Max:30ms	
机械寿命 Mechanical Life		2*10 ⁵ 次(ops)		2*10 ⁵ 次(ops)	
重量 Weight		约 Approx 1110g		约 Approx 1110g	



特性参数 CHARACTERISTIC PARAMETER

产品型号

HCZ03-600

产品图片



主触点参数 MAIN CONTACT DATA

最大工作电压 Max. Switching Voltage	1500VDC	
额定电流 Rated Current	600A	
触点形式 Contact Arrangement	一组常开 SPST-NO	
触点压降 Contact Voltage Drop	≤0.03V(at 600A)	
短时承载电流 Limiting Short-time Current	750A:600s; 1500A:20s;	
电寿命(阻性负载) Electrical Life (Resistive Load)	600A 750VDC 500次(ops) 400A 1000VDC 700次(ops) 200A 1500VDC 1000次(ops)	
最大分断电流(阻性负载) Max. Breaking Current (Resistive Load)	3000A 320VDC 1次(ops)	
过载分断(阻性负载) Overload Breaking (Resistive Load)	/	

辅助触点参数 AUXILIARY CONTACT DATA

辅助触点 Auxiliary Contact	可选配 Optional	
辅助触点形式 Auxiliary Contact Arrangement	一组常开 SPST-NO 一组常闭 SPST-NC	
辅助触点电流范围 Auxiliary Contact Current Range	/	

线圈参数 COIL DATA

额定电压 Rated Voltage	24VDC	9-36VDC		
吸合电压 Pick-up Voltage	≤18VDC	≤9VDC		
释放电压 Drop-out Voltage	≥2VDC	≥6VDC		
线圈功率 Rated Operating Power	约 Approx 6W	启动功率: 约 Approx 44W 保护功率: 约 Approx 4W		
最大允许电压 Max. Allowable Voltage	32VDC	/		

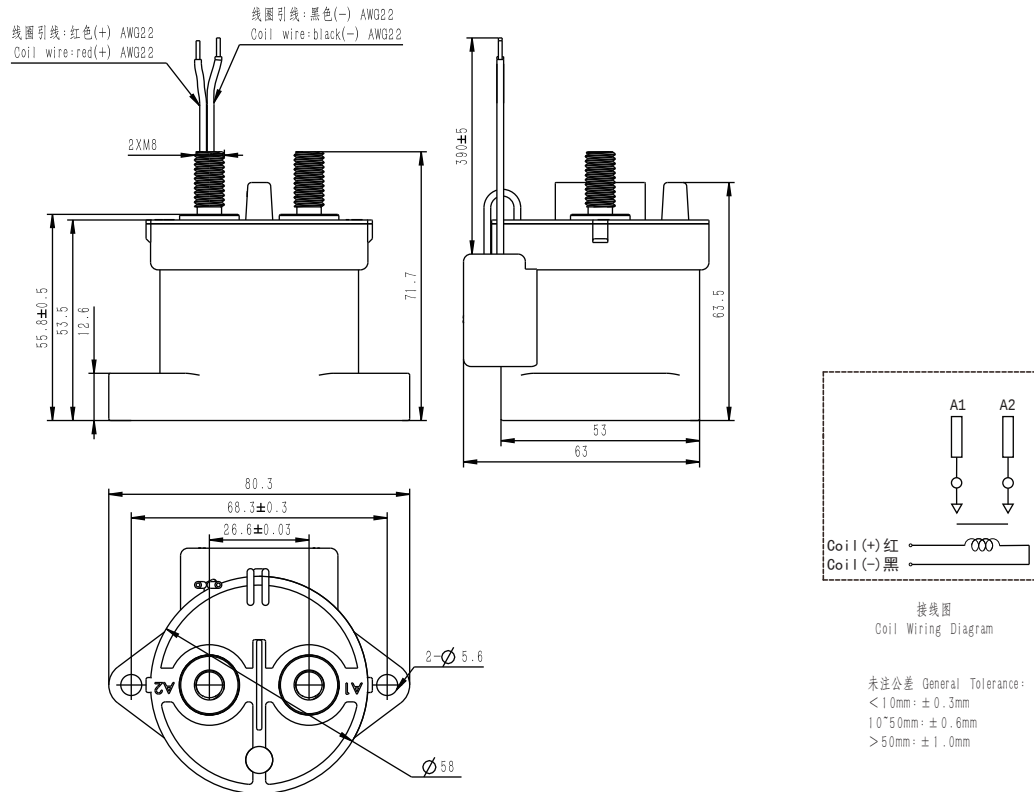
性能参数 CHARACTERISTICS DATA

介电耐压 Dielectric Strength	触点与线圈间 Between Contact And Coil 断开线圈间 Between Open Contact	4500VAC 1min 4500VAC 1min		
绝缘电阻 Insulation Resistance	触点与线圈间 Between Contact And Coil 断开线圈间 Between Open Contact	1000MΩ(1000VDC) 1000MΩ(1000VDC)		
耐冲击 Shock Resistance	功能性 Functional 强度 Destructive	20G 半正弦波 Half-sine Wave 11ms 50G 半正弦波 Half-sine Wave 6ms		
耐振动 Vibration Resistance	功能性 Functional	49m/s ² (10~500Hz)		
	吸合时间 Operate Time	Max:50ms		
	释放时间 Release Time	Max:30ms		
	机械寿命 Mechanical Life	2*10 ⁵ 次(ops)		
	重量 Weight	约 Approx 1110g		

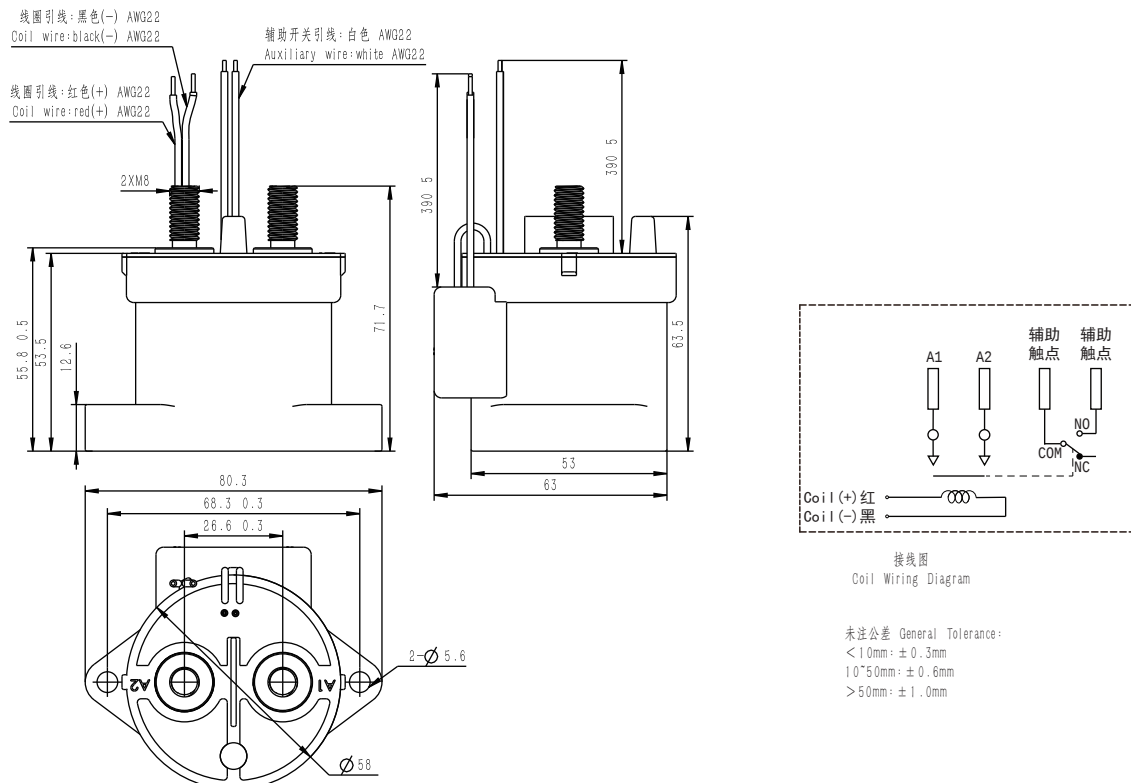


外形尺寸图 OUTLINE DIMENSIONS

HCZ01-150-A

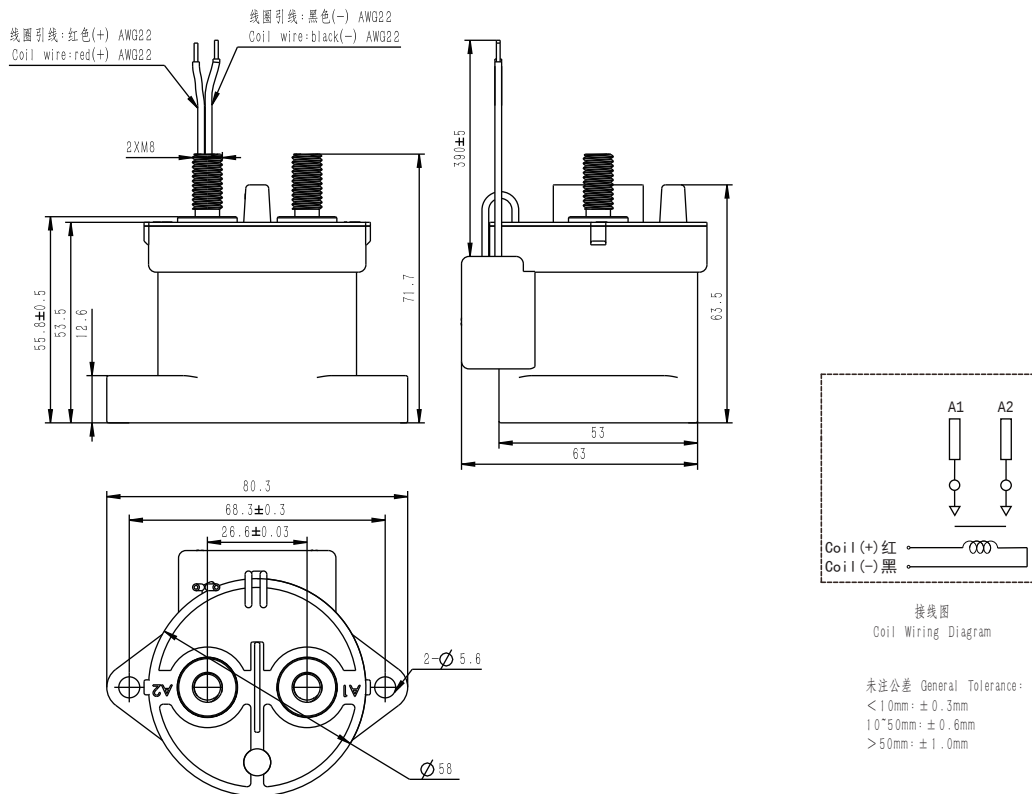


HCZ01-150F-A

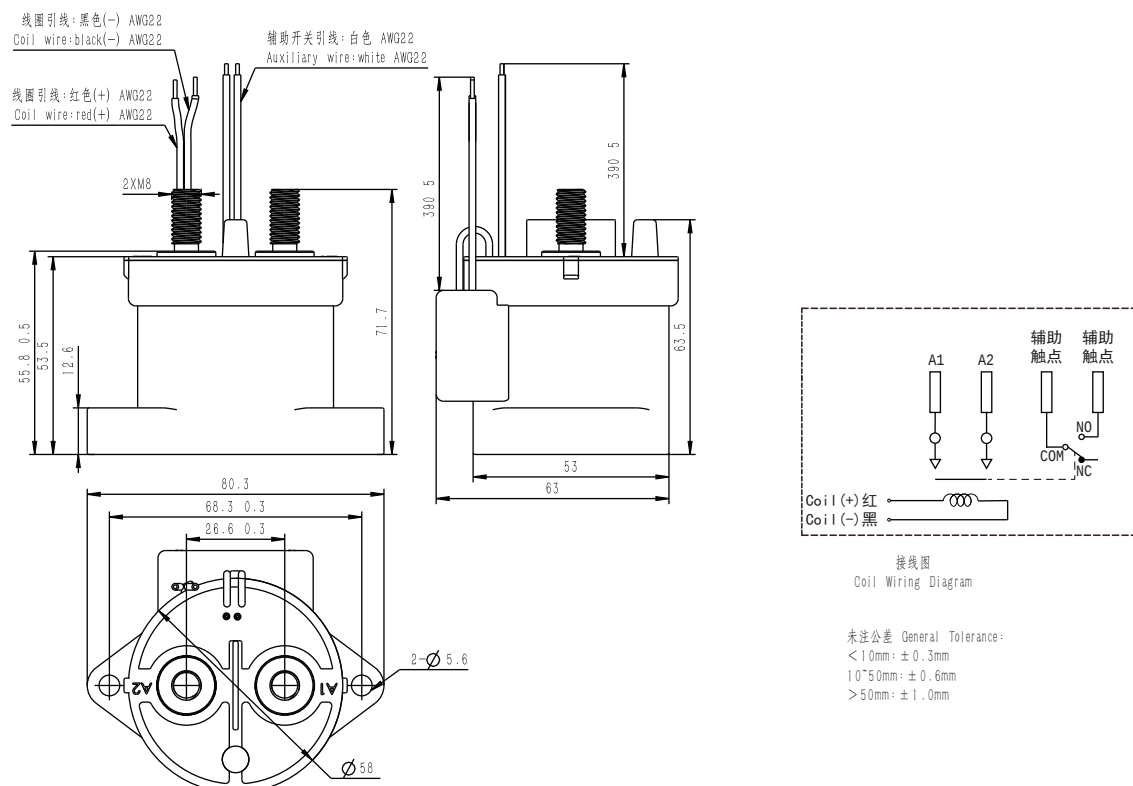


外形尺寸图 OUTLINE DIMENSIONS

HCZ01-200-A

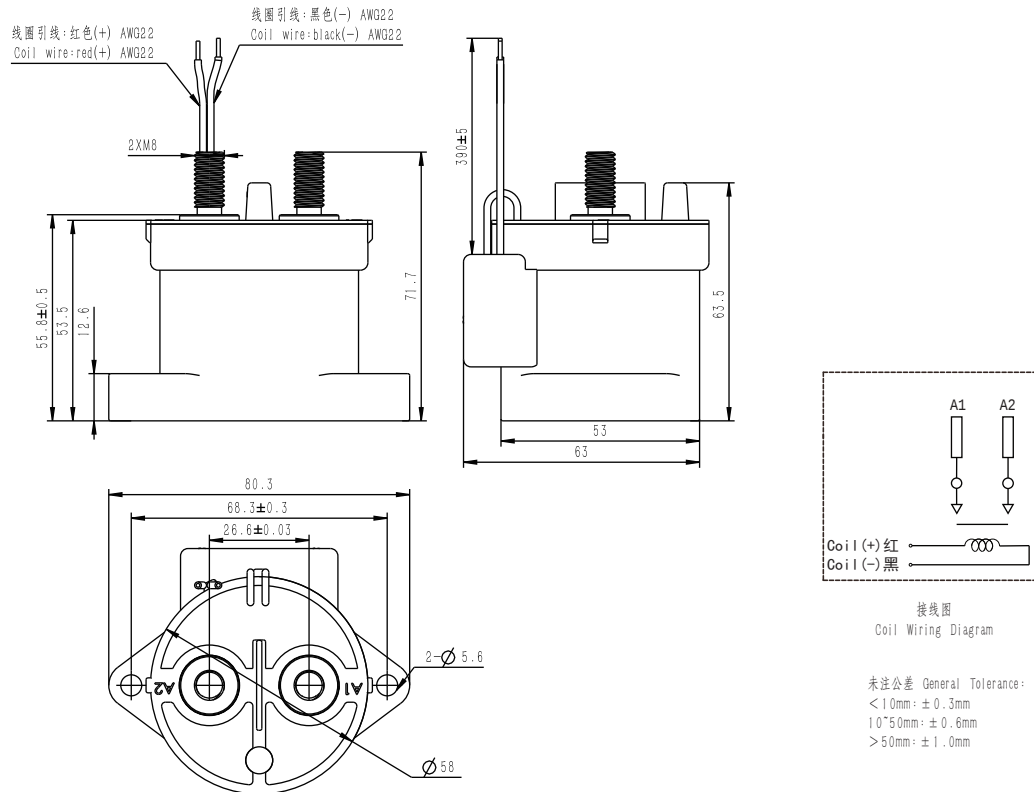


HCZ01-200F-A

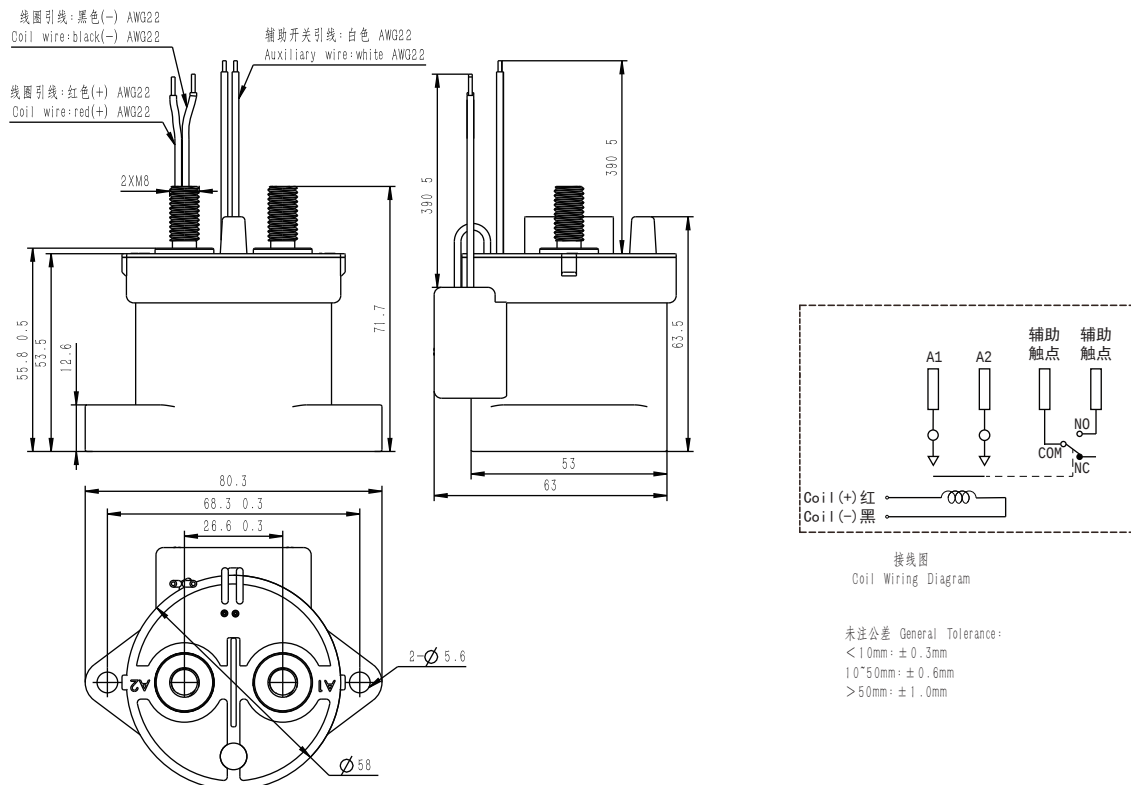


外形尺寸图 OUTLINE DIMENSIONS

HCZ01-250-A

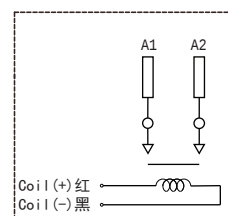
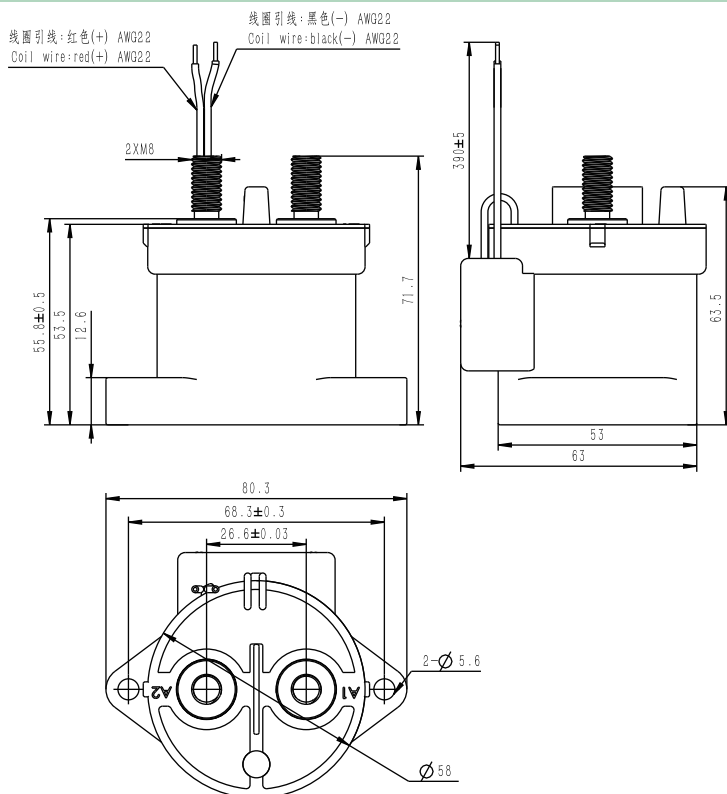


HCZ01-250F-A



外形尺寸图 OUTLINE DIMENSIONS

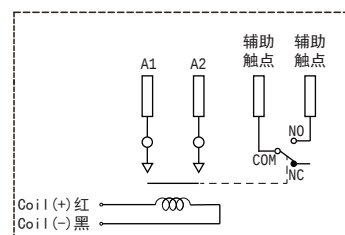
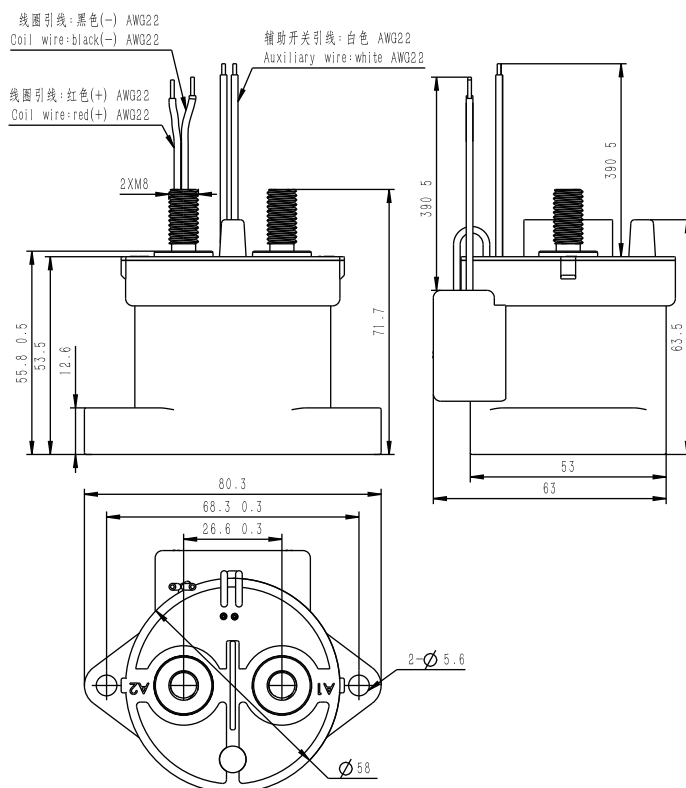
HCZ01-300-A



接线图
Coil Wiring Diagram

未注公差 General Tolerance:
 < 10mm: ± 0.3mm
 10~50mm: ± 0.6mm
 > 50mm: ± 1.0mm

HCZ01-300F-A



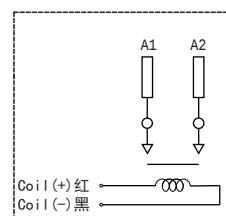
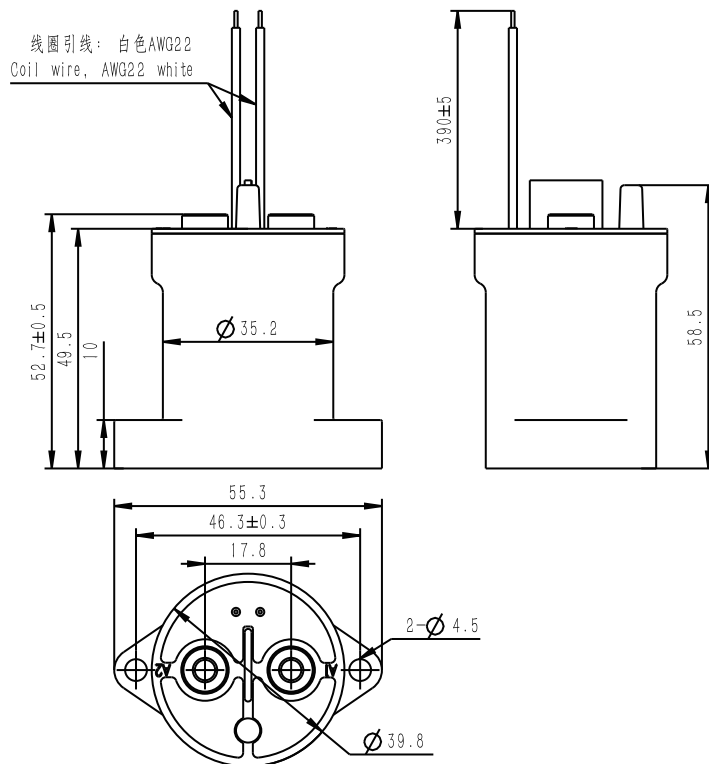
接线图
Coil Wiring Diagram

未注公差 General Tolerance:
 < 10mm: ± 0.3mm
 10~50mm: ± 0.6mm
 > 50mm: ± 1.0mm



外形尺寸图 OUTLINE DIMENSIONS

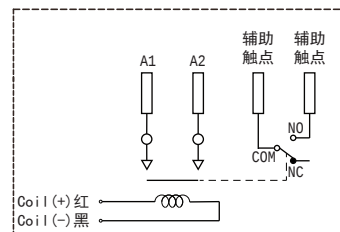
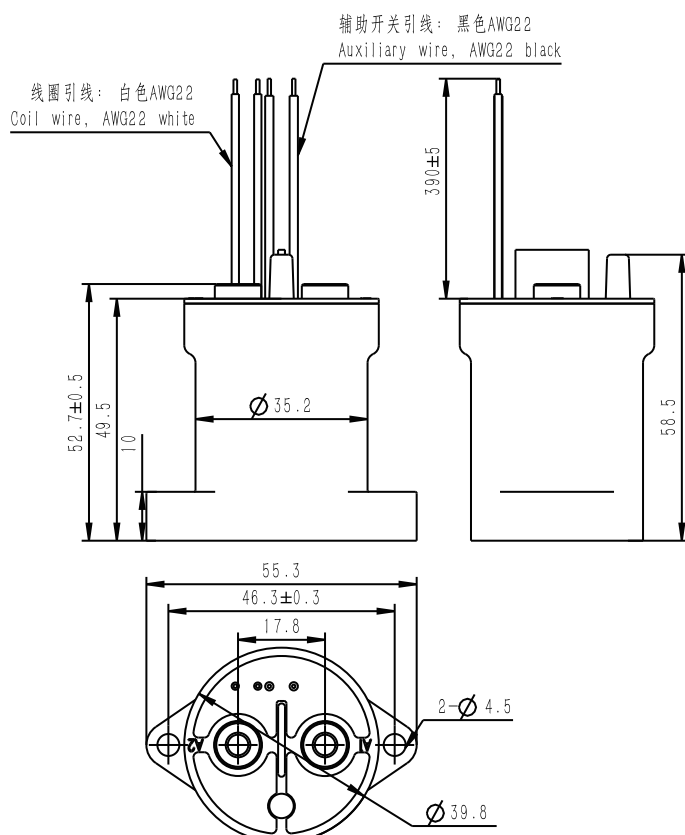
HCZ02-50-12



接线图
Coil Wiring Diagram

未注公差 General Tolerance:
< 10mm: ±0.3mm
10~50mm: ±0.6mm
> 50mm: ±1.0mm

HCZ02-50F-12



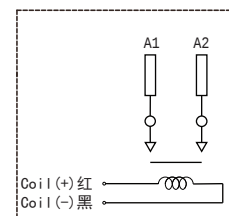
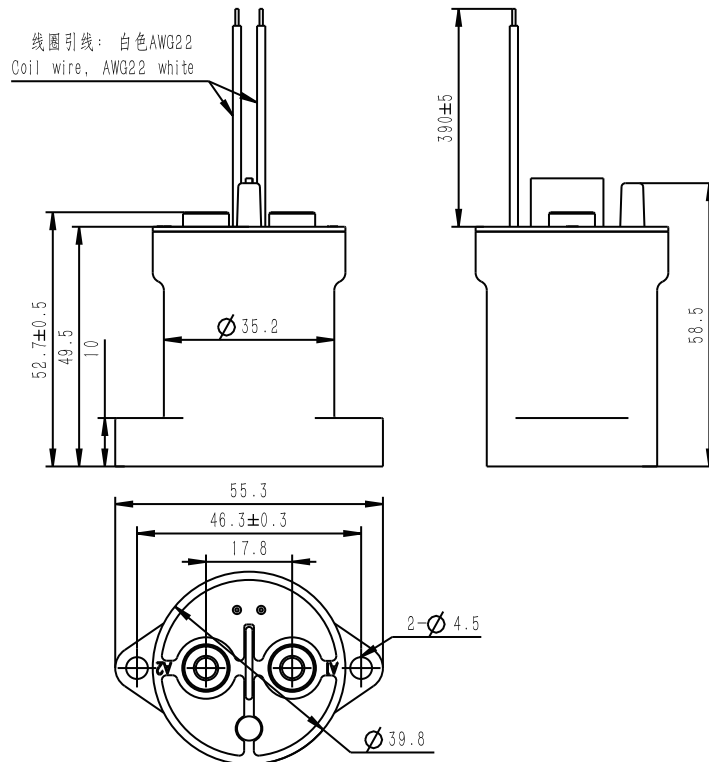
接线图
Coil Wiring Diagram

未注公差 General Tolerance:
< 10mm: ±0.3mm
10~50mm: ±0.6mm
> 50mm: ±1.0mm



外形尺寸图 OUTLINE DIMENSIONS

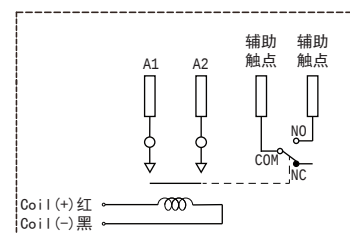
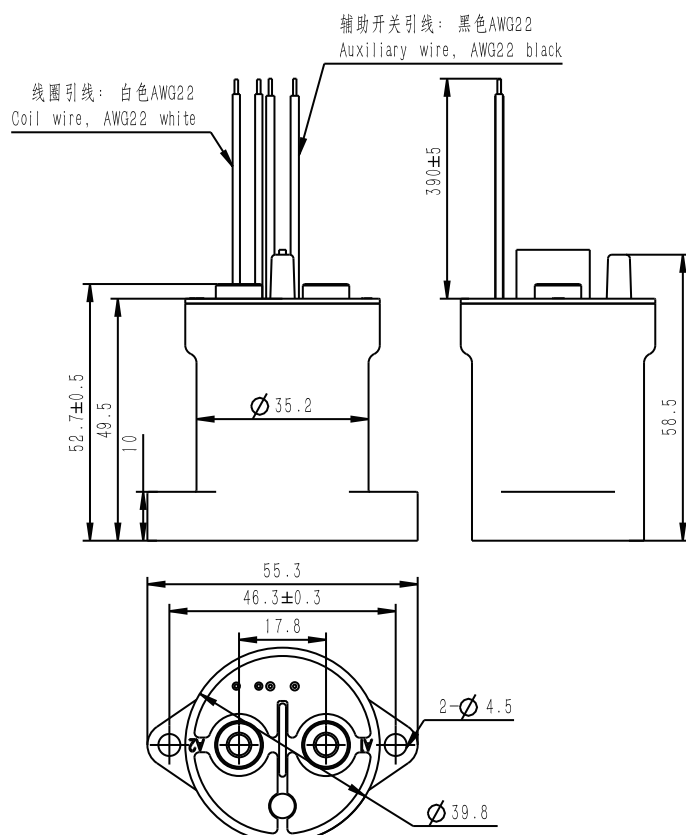
HCZ02-100-12



接线图
Coil Wiring Diagram

未注公差 General Tolerance:
 $< 10\text{mm}: \pm 0.3\text{mm}$
 $10 \sim 50\text{mm}: \pm 0.6\text{mm}$
 $> 50\text{mm}: \pm 1.0\text{mm}$

HCZ02-100F-12

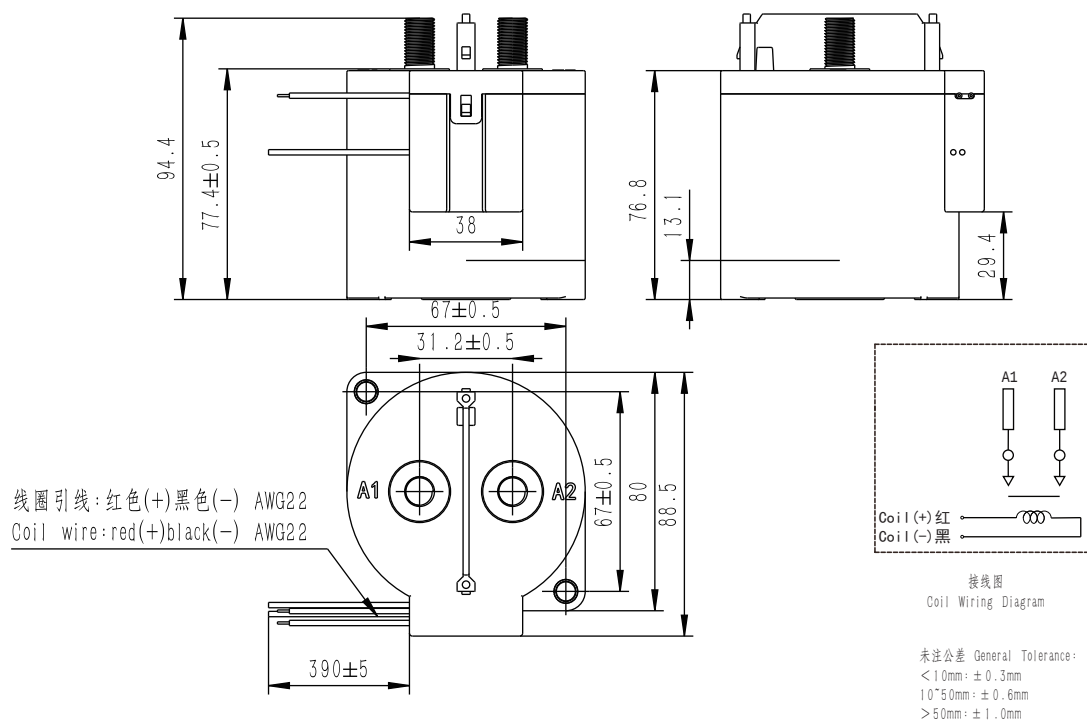


接线图
Coil Wiring Diagram

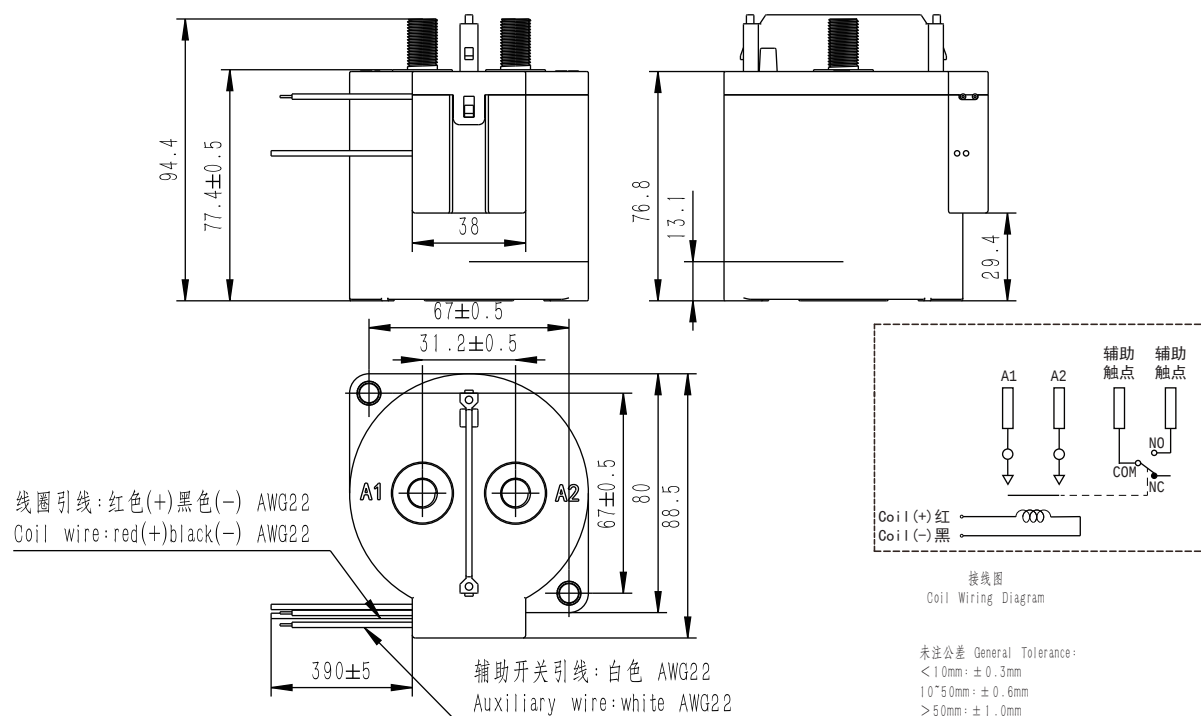
未注公差 General Tolerance:
 <10mm: $\pm 0.3\text{mm}$
 10~50mm: $\pm 0.6\text{mm}$
 >50mm: $\pm 1.0\text{mm}$

外形尺寸图 OUTLINE DIMENSIONS

HCZ03-400-A

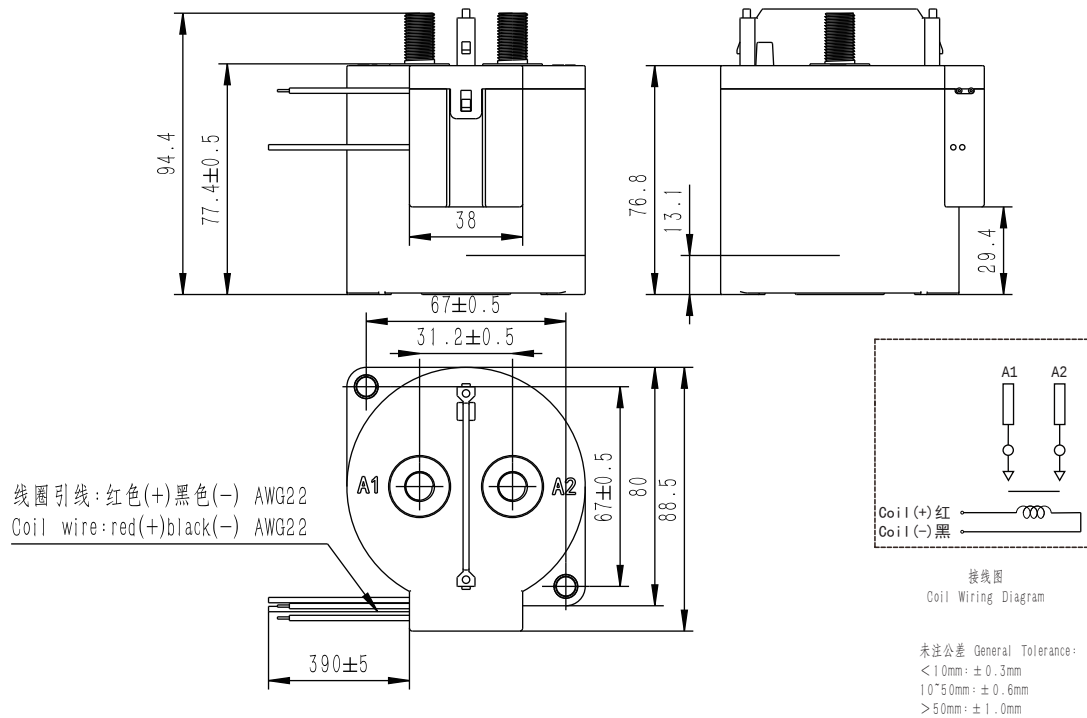


HCZ03-400F-A

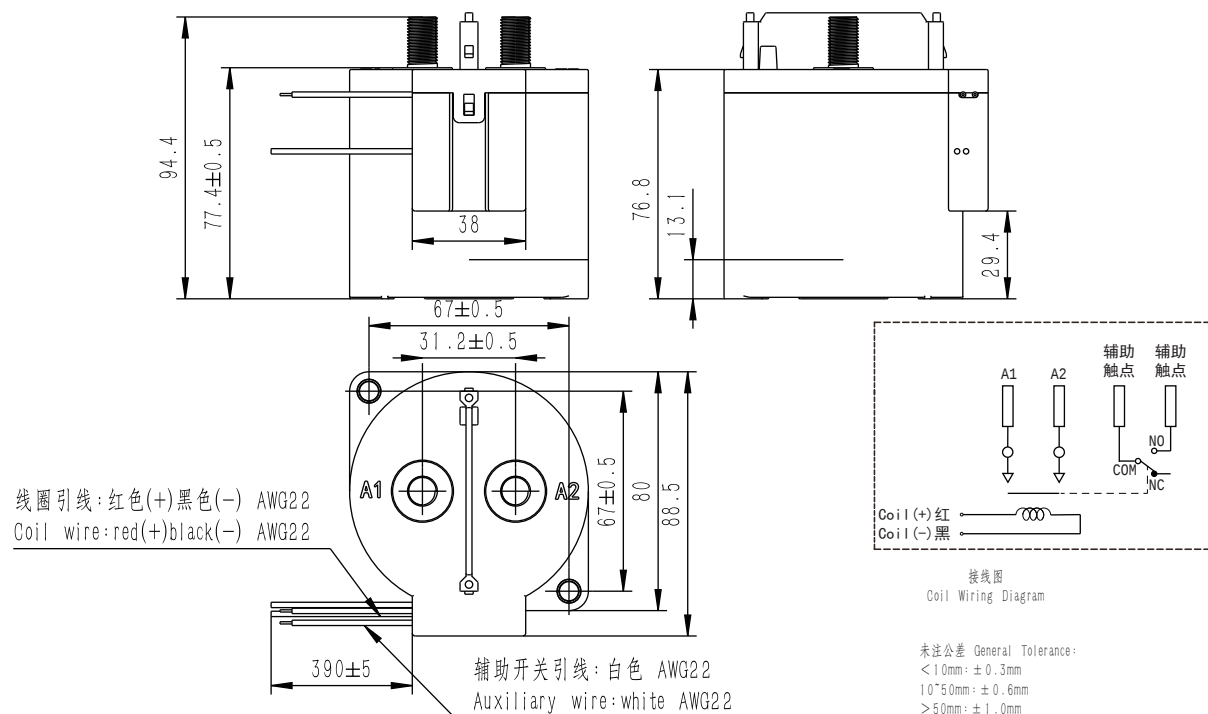


外形尺寸图 OUTLINE DIMENSIONS

HCZ03-500-A

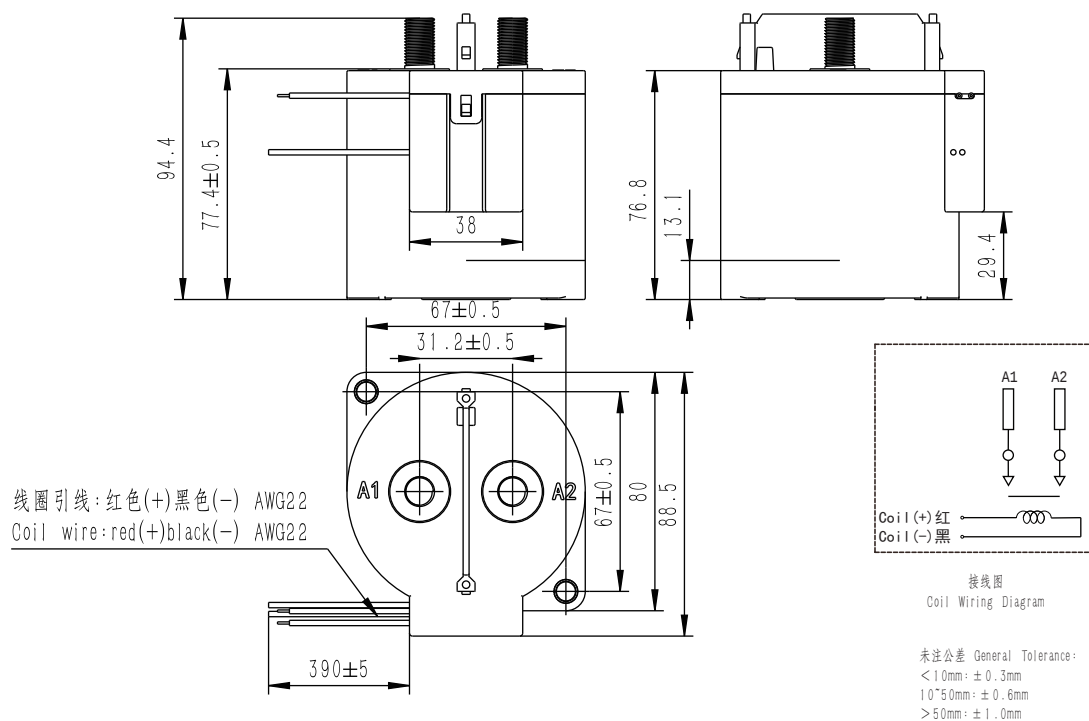


HCZ03-500F-A

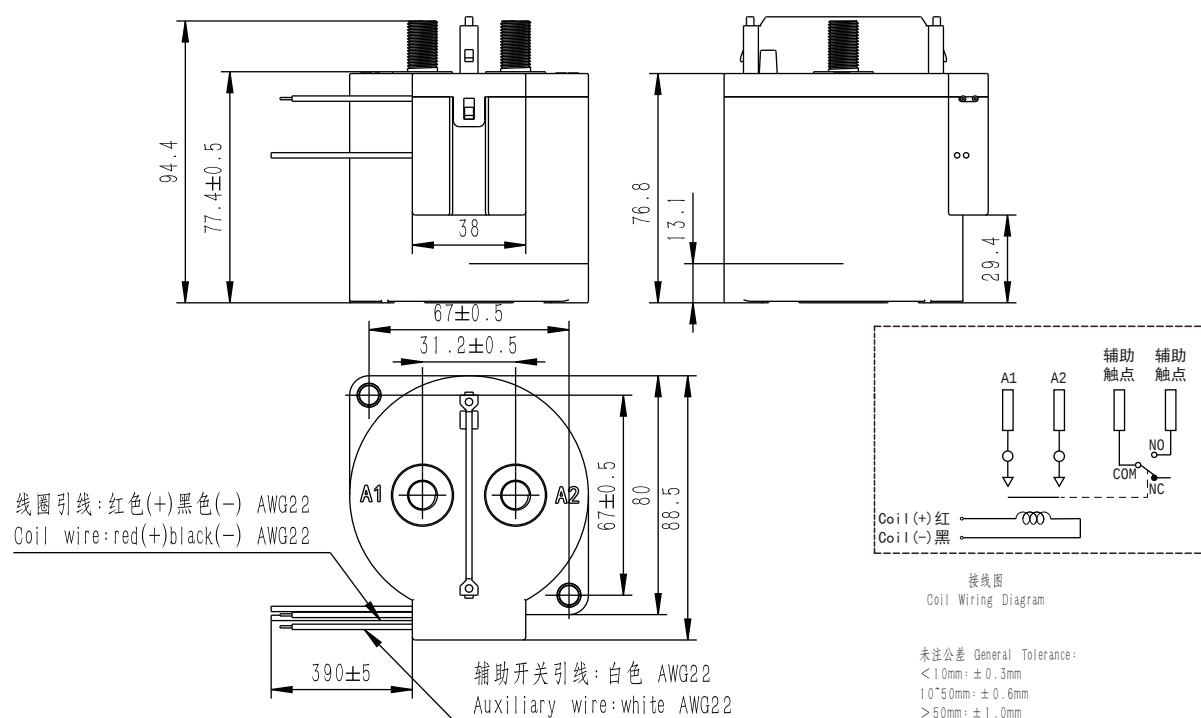


外形尺寸图 OUTLINE DIMENSIONS

HCZ03-600-A



HCZ03-600F-A



使用注意事项 CAUTIONS

1. 请避免安装在强磁场 (变压器、磁铁周围) 或发热物体附近。

Please avoid installing in strong magnetic fields (transformers, magnets around) or hot objects.

2. 使用环境温度-40℃~+85℃, 湿度5%~85%RH。

Use the environment temperature -40℃~+85℃, humidity 5%~85%RH

3. 电寿命试验在L/R≤1ms条件下进行。

Electrical life test under L/R≤1ms condition.

4. 当继电器的线圈和触头有极性时, 在进行线圈和触头的连接时, 请按接线图的指示进行操作。

When the coil and contact of the relay have polarity, connect the coil and contact according to the instructions of the wiring diagram.

5. 请注意:若线圈并联二极管使用, 继电器释放时间会加长, 造成电寿命降低。

Please be attention: If parallel diode on coil will increase relay release time and decrease electrical life.

6. 请避免在引出端上粘附油脂等异物, 建议使用下表推荐规格导线, 否则有可能造成引出端异常发热。

Please avoid the adhesion of oil and other foreign material on the lead sheet. it is recommended to use wires of the recommended specifications in the table below, otherwise it may cause the abnormal fever in the lead-out part.

电流等级 current rating	50A	100A	150A	200A	250A	300A	400A	500A	600A
公称截面积 nominal area	≥35mm ²	≥35mm ²	≥50mm ²	≥60mm ²	≥75mm ²	≥100mm ²	≥150mm ²	≥185mm ²	≥200mm ²

8. 为防止出现松动, 继电器安装时请使用垫圈螺钉锁紧, 各部位的螺钉锁紧扭矩和开孔尺寸请控制在以下范围:

In order to prevent loosening, please use the washer screw to lock when the relay is installed, the screw locking torque of each part and hole size should be controlled in the following range:

继电器壳体安装部位 relay shell installation department		
螺钉型 screw type	扭力 twisting for	底板建议开孔尺 recommended hole size for
M4	1.8-2.8N.m	Ø 4.5mm
M5	3-4N.m	Ø 5.5mm
M6	6-8N.m	Ø 6.5mm

主负载安装部位 main loading installation part	
螺钉型 screw type	扭力 twisting for
M4	1.8-2.8N.m
M5	3-4N.m
M6	6-8N.m
M8 (螺母Nut)	9-10N.m

9. 螺钉安装时, 螺纹咬合深度不能过浅, 否则有可能导致滑牙松脱, 建议咬合深度至少螺纹深度的2/3。

When screw installation, depth of match should not be too shallow, otherwise may lead to screw loose, recommend 2/3 of length of thread at least.

10. 继电器安装底板倒角外圆大小不宜过大, 否则安装时继电器安装衬套易松动, 请参考图1:

Relay installation baseboard hole can't be chamfered too much, otherwise relay shell bushes will loose, please refer to figure 1:

11. 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、螺母。不正确的连接顺序可能造成严重过热, 请参考图2:

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, please refer to figure 2:

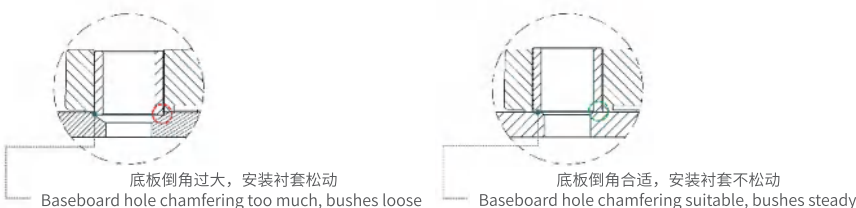


图 1(Fig 1)

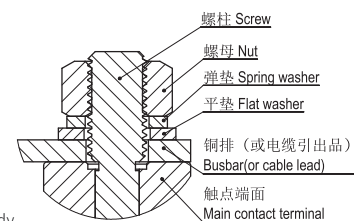
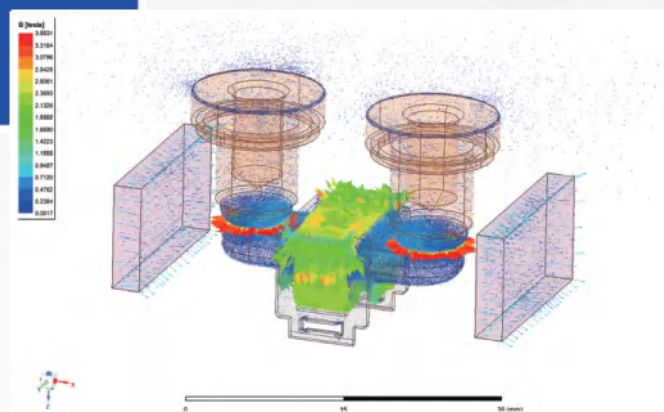
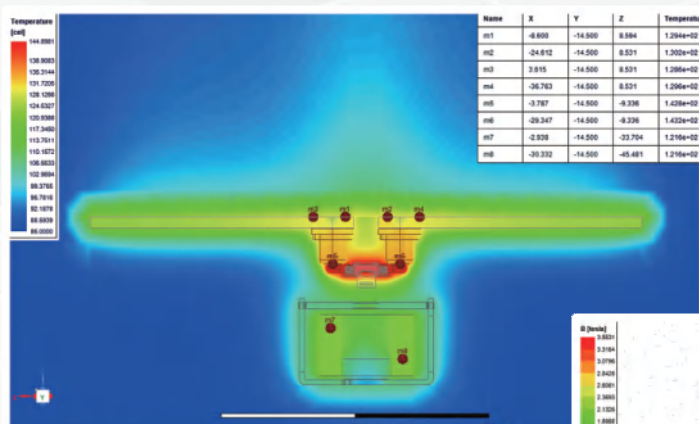


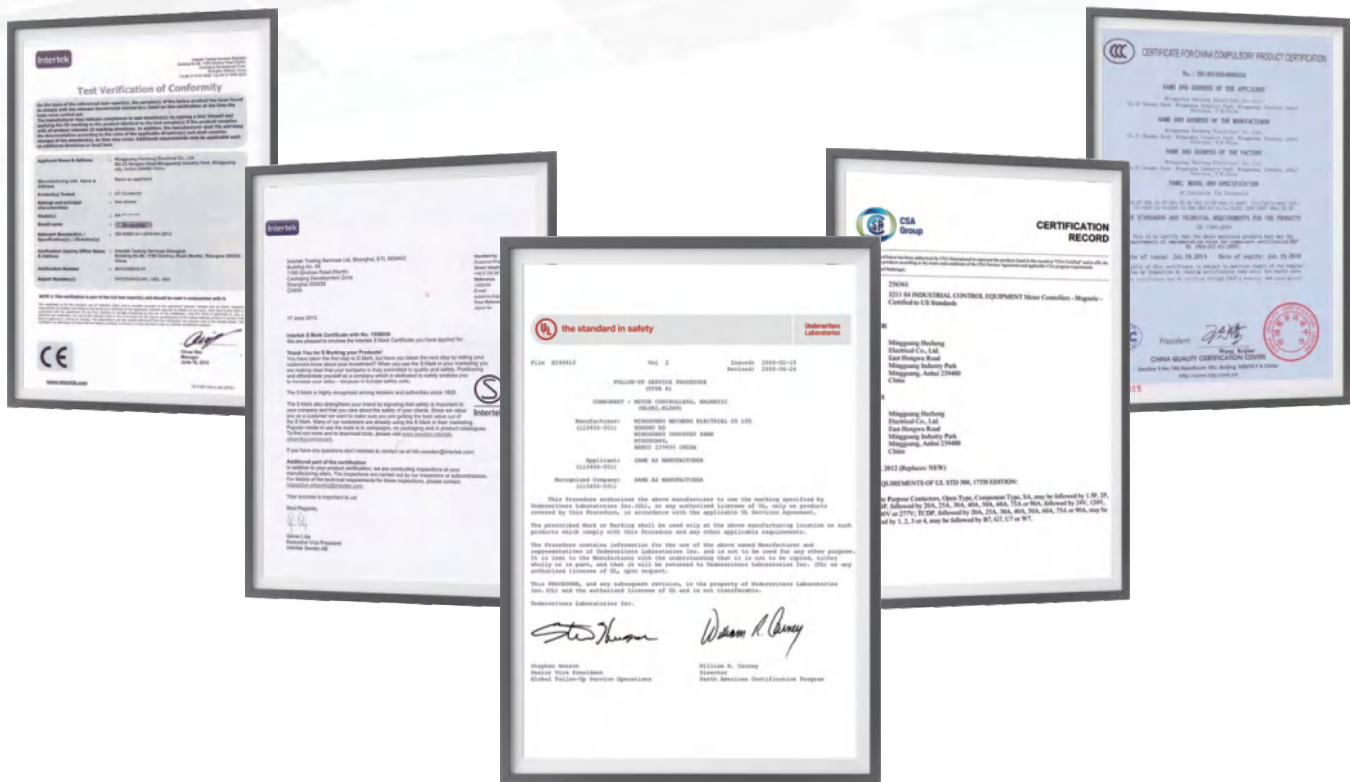
图 2(Fig 2)



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