



# 产品规格书

## Relay Specification Sheet

产品名称 Product Name: 继电器 RELAY

产品型号 Product model: HC115F-S-12DCW

产品料号 Product Material Code:

客户名称 Customer name:

客户料号 Customer Material Code:

版本 Version: V1.1

发布日期 Date: 2024 年 8 月 26 日

禾晨审批签字 Signature by golden			顾客签字或盖章 Stamp or signature by customer
批准 Approved	审核 Check	拟制 Make	负责人 by:  日期 date:



## 一、线圈参数Coil specification

(1)	额定电压 Nominal Voltage	DC 12V
(2)	线圈阻抗 Coil Resistance	$360\Omega \pm 10\%$ (at $23 \pm 5^\circ\text{C}$ )
(3)	额定电流 Rated current	DC $33.3\text{mA} \pm 10\%$ (at $23 \pm 5^\circ\text{C}$ )
(4)	最大允许线圈电压 Max. Allowable Coil Voltage	15.6Vdc (130% of nominal voltage)
(5)	线圈温升 Coil Temperature Rise	$\leq 60\text{K}$ (Coil:12V)

注: 最大允许线圈电压是指继电器线圈在短时间内承受的最大电压值。

## 二、触点参数Contact Specification

(1)	触点材质 Contact Material	银合金 Silver alloy
(2)	触点型式 Contact Configuration	SPDT (1 Form C) --单刀双掷 (一组转换)
(3)	最大切换电流 Max.Contact Current	16A
(4)	最大切换电压 Max.Contact Voltage	277VAC
(5)	最大切换功率 Max.Allowable Capacity	4432VA
(6)	触点温升 Contact Temperature Rise	$\leq 60\text{K}$ (Contact:16A)
(7)	触点额定负载 Contact Rating	NO:16A 277/250VAC (Resistive load); NC:12A 277/250VAC (Resistive load);

注: 最大切换电流是指继电器所能承受的极限值, 在切换电压降低时, 不可按如下公式进行换算切换电流进行使用:  
最大切换功率÷切换电压=切换电流

## 三、通用参数 General Specification

(1)	接触电阻 Contact Resistance		≤100 mΩ Initial(初始值) (At DC6V 1A)
(2)	动作电压 Operate voltage		≤9VDC(at 23±5℃)
(3)	释放电压 Release voltage		≥0.6VDC (at 23±5℃)
(4)	动作时间 Operate time		≤20ms
(5)	释放时间 Release time		≤20ms
(6)	介质耐压 Dielectric Strength	触点间 between open contacts	1000VAC, 50/60 HZ for 1 Minute (漏电流 Leak Current:1mA)
		线圈与触点间 between contacts and coil	5000VAC, 50/60 HZ for 1 Minute (漏电流 Leak Current:1mA)
(7)	绝缘电阻 Insulation Resistance	触点间 between open contacts	≥1000M Ω (500VDC)
		线圈与触点间 between contacts and coil	≥1000M Ω (500VDC)
(8)	寿命 Life	电气寿命 Electrically	NO: 16A 277VAC:5X10 <sup>4</sup> 次(6次/分钟)ON:1S OFF:9S NC: 12A 277VAC:1X10 <sup>4</sup> 次(6次/分钟)ON:1S OFF:9S
		机械寿命 Mechanically	1X10 <sup>6</sup> 次(300次/分钟)

注: 1. 以上均为初始值, 动作电压和释放电压仅供检测用, 不是设计的使用指标。

2. 电气寿命是在常温条件下外壳开孔测试数据, 常开端与常闭端是分开测试的。



## 四、安规认证 Safety Certification

认证 Certified	UL/CUL	CQC	TUV
证书编号File No.	/	/	/

上述认证号代表该产品取得相关认证, 但具体认证内容请以我公司提交的证书为准。

The authentication number represents the product to obtain the relevant certification, but the specific certification to certificate our company, please submit prevail.

## 五、环境参数 Environmental Characteristics

### 5.1 振动 Vibration

强度: 1.5mm双振幅, 10~55Hz, 3小时。继电器外观、结构和性能不应有异常。 Durability: 1.5mm Double amplitude ,10 to 55Hz, 3 hours. It shall be no abnormalities in appearance, construction and performance.

### 5.2 冲击 Shock

稳定性: 98m/s<sup>2</sup> (10g), 6次(X、Y、Z 三个方向中的每个方向), 闭合回路的断开或开路回路的闭合时间应不超过100 μs。 Malfunction:98m/s<sup>2</sup> (10g), 6 shocks(each direction of X,Y,Z),No opening of any closed contact circuit of no closing of any opened contact circuit shall exceed 100 μs.

强度: 980m/s<sup>2</sup> (100g), 6次(X、Y、Z三个方向中的每个方向), 继电器外观、结构和性能不应有异常。 Durability: 980m/s<sup>2</sup> (100g), 6 shocks (each direction of X,Y,Z), It shall be no abnormalities in appearance, construction and performance.

### 5.3 耐温性 Temperature Resistance

#### (1) 耐热 Heat Resistance

85±2℃温度中放置2小时, 恢复常温2小时后, 继电器的结构及性能应无异常。 Must be free from any abnormality in both the construction and characteristics after the relay is lift in a temperature of 85±2℃ for 2h and then in room temperature and humidity for 2h.

#### (2) 耐寒 Cold Resistance

-40±2℃温度中放置2小时, 恢复常温2小时后, 继电器的结构及性能应无异常。 Must be free from any abnormality in both the construction and characteristics after the relay is lift in a temperature of -40±2℃ for 2h and then in room temperature and humidity for 2h.

### 5.4 耐湿性 Moisture Resistance

在温度 40±2℃ 相对湿度 90~95%RH 中放置 48 小时, 恢复常温常湿 2 小时后, 继电器的结构及性能应无异常。且绝缘电阻应不小于 50MΩ min。(500VDC) Must be free from any abnormality in both the construction and characteristics after the relay is lift in a temperature of 40±2℃,and humidity of 90% to 95% RH for 48h and then in room temperature and humidity for 2h. Insulation resistance however must be no less than 50MΩ min. (500VDC)



## 六、端子性能 Terminal characteristics

### 6.1 端子强度 Terminal Strength: 5N 1 分钟(minute)

端子在插入方向上施加5N的拉力,继电器应无异常。(端子微弯可以接受) At push in direction the terminal can endure 5N force for 1 minute, It Shall be no abnormalities. (a little curving of the terminals shall be Acceptable)

### 6.2 耐焊接热 Soldering Heat Resistance: $260\pm 5^{\circ}\text{C}$ , 10s.

继电器应无异常。 There shall be no abnormalities.

### 6.3 焊接性能 Soldering Ability: $240\pm 5^{\circ}\text{C}$ , $3\pm 0.5\text{s}$ .

引出端被浸锡部分应有90%以上连续覆上一层锡层。 90% of the dipped portion shall be soldered.

## 七. 标准测试条件 Standards Test Condition

### 7.1 温度 Temperature: $23\pm 5^{\circ}\text{C}$

### 7.2 湿度 Humidity: $60 \pm 10\% \text{ RH}$

### 7.3 方向 Direction of Measurement:

引出脚向下为标准方向。 Terminals down position is standard position

## 八. 使用条件 Operating Condition

### 8.1 温度 Temperature: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

### 8.2 湿度 Humidity: $5\% \sim 85\% \text{ RH}$

### 8.3 安装方向 Mounting Direction:

引出脚向下为标准方向。 Terminals down position is standard position

## 九. 贮存条件 Storage Condition

### 9.1 温度 Temperature: $0^{\circ}\text{C} \sim +40^{\circ}\text{C}$

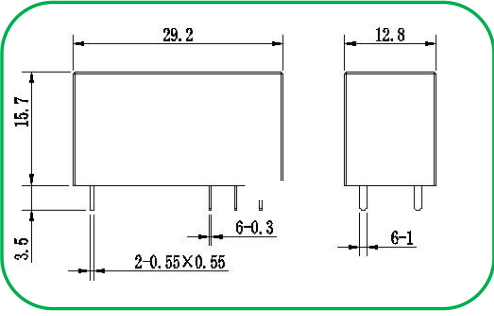
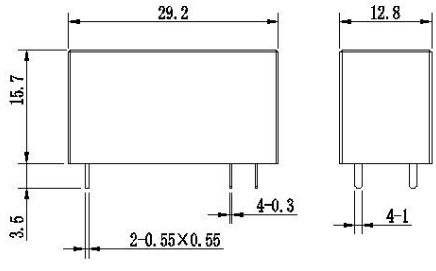
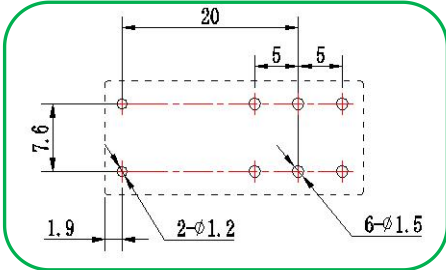
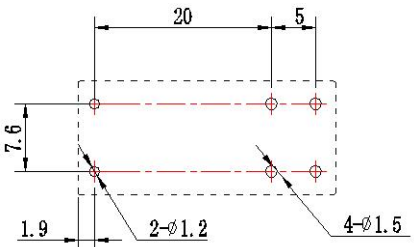
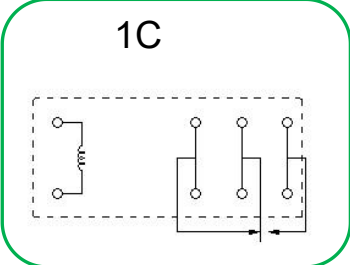
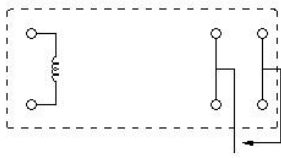
### 9.2 湿度 Humidity: $< 80\% \text{ RH}$

### 9.3 环境 Environment

(1) 产品贮存场地不能有腐蚀性气体 Store in locations where the product is not exposed to corrosive gas.

(2) 贮存中应避免阳光直照产品 Keep product is not exposed to the direct ray of the sun.

## 十. 产品结构 Configuration

<p>外形图 OUTLINE DIMENSIONS</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>1C</p>  </div> <div style="text-align: center;"> <p>1A</p>  </div> </div> <div style="margin-top: 10px;"> <p>产品外形尺寸未注尺寸公差 Outline dimensions hadn't specified tolerance</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>外形尺寸 Outline Dimensions</th><th>公差 Tolerance</th></tr> </thead> <tbody> <tr> <td>≤1mm</td><td>±0.2mm</td></tr> <tr> <td>1~5mm</td><td>±0.3mm</td></tr> <tr> <td>&gt;5mm</td><td>±0.4mm</td></tr> </tbody> </table> </div> <p>注: 1、引出脚尺寸为预焊前尺寸, 引出端长度尺寸不包含锡尖尺寸, 沾锡后锡尖长度不超过1mm</p>	外形尺寸 Outline Dimensions	公差 Tolerance	≤1mm	±0.2mm	1~5mm	±0.3mm	>5mm	±0.4mm
外形尺寸 Outline Dimensions	公差 Tolerance								
≤1mm	±0.2mm								
1~5mm	±0.3mm								
>5mm	±0.4mm								
<p>安装孔尺寸 (底视图) PCB layout (Bottom View)</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>1C</p>  </div> <div style="text-align: center;"> <p>1A</p>  </div> </div> <p style="text-align: right;">TOLERANCE: ±0.1</p>								
<p>接线图 (底视图) WIRING DIAGRAM (Bottom View)</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>1C</p>  </div> <div style="text-align: center;"> <p>1A</p>  </div> </div>								

## 十一、包装信息 Packing Information

P/N	Inner packing	Carton Dimensions L×W×H (cm)	QTY (PCS) /carton	Net weight (Kg)	Gross weight (Kg)
HC115F	20pcs/tube	40.0 x 23.0 x 21.5	1000	12	13.5



## 十二、命名规则 Encoding Information

<u>HC115F</u>	-	<u>S</u>	-	<u>12</u>	<u>D</u>	<u>C</u>	<u>W</u>	<u>XXX</u>
1		2		3	4	5	6	7

### 1. 产品型号

HC115F

### 2. 封装方式

S--防焊剂型 SH--密封型

### 3. 线圈额定电压

5--5VDC 6--6VDC 9--9VDC 12--12VDC 24--24VDC

### 4. 线圈功耗

D--0.4W

### 5. 触点形式

A--常开型 C--转换型

### 6. 端子型式

W—单刀双脚型(5.0脚距)

### 7. 特殊代码

无--标准型

数字或字母--其他

## 十三、特别提醒Reminds

- 13.1 如有任何特殊要求, 请联系禾晨公司。Any special requirements, please contact HONCHIN.
- 13.2 在诸如H<sub>2</sub>S、SO<sub>2</sub>或NO<sub>2</sub>有害气体的环境中, 推荐选用完全密封型产品。Under the Environment with dangerous gas such as H<sub>2</sub>S, SO<sub>2</sub> or NO<sub>2</sub>, fully sealed type is recommended.
- 13.3 如果环境允许, 优先选用防焊剂型产品。If the ambience allows, flux proof type is preferentially recommended.
- 13.4 如果客户需要用超声波设备清洗PCB和继电器, 则必须选用完全密封型产品。If the user washes the PCB and relay in the ultrasonic cleaner, fully sealed type must be selected.
- 13.5 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
- 13.6 避免在强磁场条件下使用继电器, 外界强磁场会造成继电器动作和释放等参数发生变化。To avoid using relays under strong magnetic field because it will change the parameters of relay such as pull-in and drop-out voltage.
- 13.7 为了保持继电器的性能, 请注意不要使继电器掉落或受到强冲击。掉落后的继电器建议不再使用。To maintain the performances of relays, please do not make the relay drop or be shocked strongly. Suggest that the relays dropped not be used.