

SPECIFICATION

Type: HRS3FTH-S-DC5V-A Relay

1. 线圈参数

1.1 额定电压	5VDC.
1.2 线圈电阻	125Ω ±10% at 23°C.
1.3 额定电流	40mA ±10% at 23°C.
1.4 吸合电压	3.75VDC Max.
1.5 释放电压	0.5VDC Min.
1.6 最大线圈电压	6.5VDC(130%额定电压)
1.7 额定功耗	200mW

2. 触点参数

2.1 触点形式	1 Form A-SPST
2.2 触点材质	Ag Alloy
2.3 触点负载	Resistive: 16A 250VAC
2.4 最大切换电压	30VDC / 250VAC
2.5 最大切换电流	16A
2.6 最大切换功率	4000VA, 480W
2.7 最小切换电流电压	100mA 5VDC
2.8 接触电阻 (初始值)	Max.100mΩ at 6VDC 1A
2.9 电气耐久性	常温下 100,000 次 (360 ops/h) 试验后,介质耐压值应不小于初始值的 75%。
2.10 机械耐久性	空载条件下 1,000,000 次(18,000 ops/h)

3. 其他性能

3.1 绝缘电阻	Min.1000MΩ at 500VDC
3.2 介质耐压(漏电流: 1mA)	
(1) 触点间	1,000VAC, 1 min , 50/60Hz
(2) 触点与线圈间	4,000VAC, 1 min , 50/60Hz
3.3 吸合时间	Max. 10 ms.
3.4 释放时间	Max. 5 ms.
3.5 工作温度	-40 to +85°C
3.6 储存条件	
(1) 储存温度	-40 to +85°C
(2) 环境	贮存于无腐蚀性气体的场所, 如硫化氢气体或有盐份的空气中。 贮存于产品不受阳光直射的场所, 不受雨淋的场所。

- 3.7 温升
线圈 在 85℃ 环境温度下，触点施加 16A 负载，线圈用 110% 额定电压进行激励，用电阻法测线圈温升应不超过 70K。
- 3.8 端子强度
拉力和推力 继电器结构和性能应无任何异常当用 1kg 的拉力和推力推拉继电器焊锡端子各 10s。
- 3.9 可焊性 在锡温为 260±5℃ 的锡炉中浸渍 5±1s，端子应有 95% 区域被锡覆盖。
- 3.10 耐焊接热 在锡温为 260±5℃ 的锡炉中浸渍 10±1s 后将继电器在常温常湿下恢复 1.5 小时，继电器结构和性能应无任何异常。如果是手工焊锡，必须在 350±10℃ 的锡温下浸渍 3.5±0.5s。接触电阻应小于 100mΩ。
- 3.11 寒冷 继电器在 -40±3℃ 温度下放置 2 小时后将其在常温常湿下恢复 1.5 小时，继电器结构和性能应无任何异常。接触电阻应小于 100mΩ。
- 3.12 干热 继电器在 85±2℃ 温度下放置 16 小时后将其在常温常湿下恢复 1.5 小时，继电器结构和性能应无任何异常。接触电阻应小于 100mΩ。
- 3.13 耐湿热 继电器在 90-95% RH 湿度，40±2℃ 温度下放置 48 小时后将其在常温常湿下恢复 1.5 小时，继电器结构和性能应无任何异常。绝缘电阻应不小于 100 M ohms，接触电阻应小于 100mΩ。
- 3.14 振动
(1) 强度 继电器在 1.5 mm 双振幅，10~55~10Hz 的频率下每个方向（X、Y、Z）振动 2h，共 6h，继电器结构和性能应无任何异常。
(2) 稳定性
(激励) 触点打开时间不超过 1ms 或更长时间当继电器在 1.5 mm 双振幅，10~55~10Hz 的频率下每个方向（X、Y、Z）经受 5 分钟的振动，共 30 分钟。
- 3.15 冲击
(1) 强度 继电器在 1,000m/s² 加速度，时间为 6ms 的条件下每个方向（X、Y、Z）经受 3 次冲击，共 18 次冲击，继电器结构和性能应无任何异常。
(2) 稳定性
(激励) 触点打开时间不超过 1ms 或更长时间当继电器在 100m/s² 加速度，时间为 11ms 的条件下每个方向（X、Y、Z）经受 3 次冲击，共 18 次冲击。

- 4 命名:
HRS3F I H - S - DC5V - A
a b c d e f
- a: 继电器系列号
b: T 表示高负载 16A
c: 线圈功率
H 表示线圈功率为 200mW
d: 封胶型式
S: 塑封型
e: 线圈电压 DC5V
f: 触点形式
A 表示常开型 SPST
- 5 印字
印字图号 Y-HRS3F-N9
外壳颜色 黑色
印字类型 激光印字
- 6 外形尺寸, 安装脚位, 接线图 图号. HKE4.520.302F
- 7 安全认证 UL No.E164730
TUV NO. R50223752
CQC12002076143.



图1 1:1

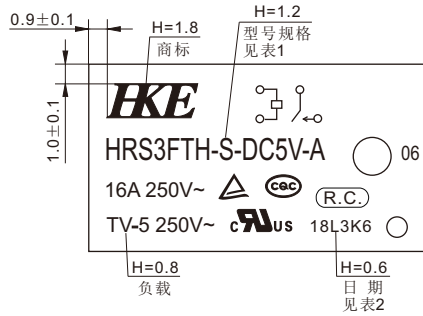


图2 2.5:1

表 1

HRS3F	T	H	S	DC12V	A
型号	16A负载	线圈功率 H:200mW 无:450mW	S:封胶型	线圈电压 DC5V, DC6V, DC9V DC12V, DC24V	触点形式 A:常开型

表 2

18	L	3	K	6
年份	月份: A:1月 E:5月 I:9月 B:2月 F:6月 J:10月 C:3月 G:7月 K:11月 D:4月 H:8月 L:12月	星期: 1:第1星期 2:第2星期 3:第3星期 4:第4星期	MAKER	1:生产一部, 2:生产二部 3:生产三部, 6:生产六部 7:生产七部, 8:生产八部 9:生产九部

技术要求:
1. “06”代表客户代码;
2. 单线印字, 线条、字迹应清晰、美观。

产品编号

HRS3F

旧底图总号

底图总号

日期 签名

标记	数量	更改单号	签名	日期
设计				
审核				
工艺				
标准化				
批准				

HRS3F外壳标志图

HKE

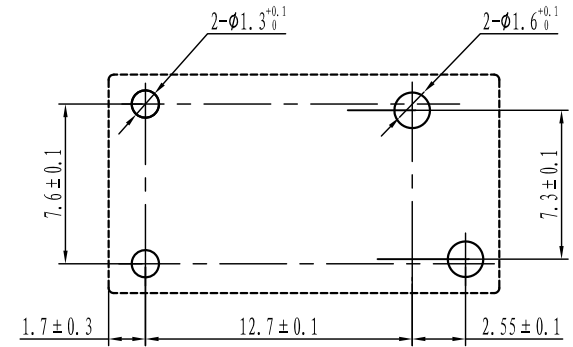
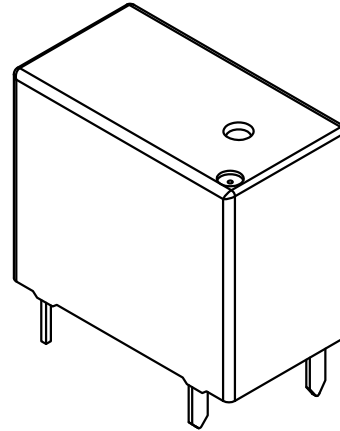
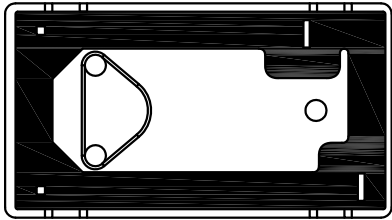
浙江汇港电器有限公司

阶段	标记	质量	比例

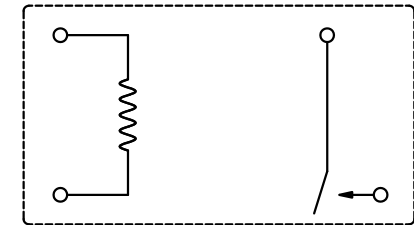
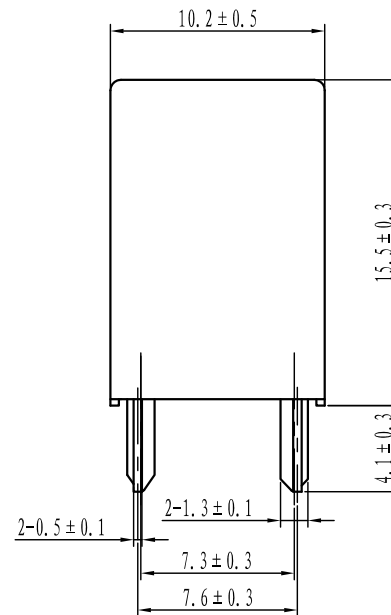
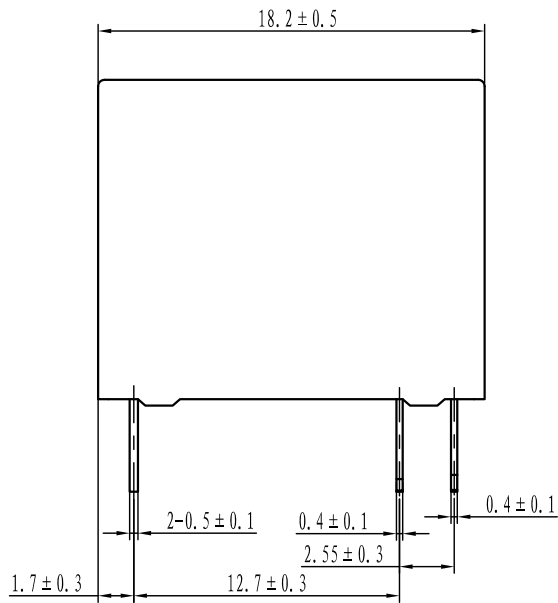
共 页 第 页

Y-HRS3F-N9

标注尺寸单位均为: mm



安装孔尺寸图 (底视图)



接线图 (底视图)



标记	数量	更改单号	签名	日期
设计				
审核				
工艺				
标准化				
批准				

外形图

HKE		
浙江汇港电器有限公司		
阶段	标记	质量
		比例
		4:1
共 1 页		第 1 页
HKE4.520.302F		

产品编号	
HRS3FT	
旧底图总号	
底图总号	
日期	签名



质量管理体系认证证书

证书编号：00117Q34885R6M/3302

兹证明

浙江汇港电器有限公司

统一社会信用代码/组织机构代码：913302127369759197

中国浙江省宁波市鄞州区云龙镇甲村（架山）162号

建立的质量管理体系符合标准：

ISO9001:2015

通过认证范围如下：

电磁继电器的设计、组装生产

首次发证日期：2008年8月15日 本次发证日期：2017年6月22日 有效期至：2020年7月2日

在一个监督周期后，本证书必须与CQC签发的监督审核合格通知书合并使用方可有效。查询证书有效状态请登陆www.cqc.com.cn。
本证书信息可在国家认证认可监督管理委员会官方网站（www.cnca.gov.cn）上查询



中国认可
国际互认
管理体系
MANAGEMENT SYSTEM
CNAS C001-M


Signed by: Wang Kajiao



中国质量认证中心

中国·北京·南四环西路188号9区 100070
<http://www.cqc.com.cn>



环境管理体系认证证书

证书编号：00118E32037R5M/3302

兹证明

浙江汇港电器有限公司

中国浙江省宁波市鄞州区云龙镇甲村（架山）162号

建立的环境管理体系符合标准：

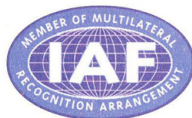
GB/T 24001-2016 / ISO 14001:2015

通过认证范围如下：

电磁继电器的设计、组装生产及相关管理活动

首次发证日期：2003年12月3日 本次发证日期：2018年6月15日 有效期至：2021年6月22日

在一个监督周期后，本证书必须与CQC签发的监督审核合格通知书合并使用方可有效。查询证书有效状态请登陆www.cqc.com.cn。



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管理体系
MANAGEMENT SYSTEM
CNAS C001-M


Signed by: Wang Kejiao



中国质量认证中心

中国·北京·南四环西路188号9区 100070
<http://www.cqc.com.cn>

CERTIFICATE OF COMPLIANCE

Certificate Number 20180816-E164730
Report Reference E164730-20130705
Issue Date 2018-AUGUST-16

Issued to: ZHEJIANG HKE RELAY CO LTD
28 JIA CUN INDUSTRY AREA
NINGBO, ZHEJIANG 315135 CHINA

**This is to certify that
representative samples of**


COMPONENT - SWITCHES, INDUSTRIAL CONTROL
Industrial Control Switches, Model HRS3F Series; may be
followed by N or T; may be followed by H; followed by -S;
followed -DC5V, -DC6V, -DC9V, -DC12V or -DC24V;
followed by -A.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: Industrial Control Equipment, UL 508
Industrial Control Equipment, CSA C22.2 No. 14-13

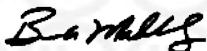
Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog
number, model number or other product designation as specified under "Marking" for the particular
Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products
that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark:
, may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is
required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual
recognitions.

Recognized components are incomplete in certain constructional features or restricted in performance
capabilities and are intended for use as components of complete equipment submitted for investigation rather
than for direct separate installation in the field. The final acceptance of the component is dependent upon its
installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please
contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>



DESCRIPTION

PRODUCT COVERED:

USR, CNR - Industrial Control Switches, Model HRS3F Series; may be followed by N or T; may be followed by H; followed by -S; followed -DC5V, -DC6V, -DC9V, -DC12V or -DC24V; followed by -A.

GENERAL:

These devices are open type magnetically operated relays with SPST contacts configuration for printed wiring board installation. They are provided with a dust cover. These devices are intended to be used in industrial control applications in complete equipment where the suitability of the end-use combination shall be determined by UL LLC.

ELECTRICAL RATINGS:

Series	Coil Voltage	Contact Rating	Application	Endurance Cycles	Max. Ambient
HRS3F	5, 6, 9, 12, 24 Vdc	NO: 5A, 250 Vac	Resistive	100,000	85°C
		NO: 1/3 HP, 240 Vac 1/4 HP, 240 Vac	Motor Load	30,000	65°C
HRS3FH		NO: 5A, 250 Vac	Resistive	100,000	85°C
		NO: 1/4 HP, 240 Vac	Motor Load	30,000	65°C
HRS3FN		NO: 10A, 250 Vac	Resistive	100,000	85°C
		NO: 10A, 125 Vac	Resistive	100,000	85°C
		NO: 1/3 HP, 240 Vac 1/4 HP, 240 Vac	Motor Load	30,000	65°C
		NO: 5A, 250 Vac	TV	25,000	40°C
HRS3FNH		NO: 10A, 250 V ac	Resistive	100,000	85°C
		NO: 10A, 125 V ac	Resistive	100,000	85°C
	NO: 1/4HP, 240 V ac	Motor Load	100,000	85°C	
	NO: 5A, 250 Vac	TV	25,000	40°C	
HRS3FT	NO: 16A, 250 Vac	General Use	50,000	85°C	
	NO: 5A, 250 Vac	TV	25,000	40°C	
HRS3FTH	NO: 16A, 250 Vac	General Use	50,000	85°C	
	NO: 5A, 250 Vac	TV	25,000	40°C	

Nomenclature:

HRS3F	N	H	-	S	-	DC5V	-	A
I	II	III		IV		V		VI

Nomenclature Breakdown:

I – HRS3F series designation

II – Contact Material:

Blank - AgSnO₂ (Ag 88%; Φ2.6 mm, 5 A)

N - AgSnO₂ (Ag 85.5%; Φ3.0 mm, 10 A)

T - AgSnO₂In₂O₃ (Ag 85.5%; Φ3.2 mm, 16 A)

III – Coil Power:

Blank - 0.45 W

H - 0.2 W

IV – S – Sealed type

V - Coil Voltage:

DC5V – 5 Vdc

DC6V – 6 Vdc

DC9V – 9 Vdc

DC12 – 12 Vdc

DC24 - 24 Vdc

VI – Contact Form:

A – Normally Open

TECHNICAL CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

For use only in (or with) complete equipment where the acceptability of the combination is determined by UL LLC.

USR indicates investigation to the US Standard for Industrial Control Equipment UL 508, 17th Edition, revised March 19, 2013.

CNR indicates investigation to the Canadian Standard for Industrial Control Equipment CSA C22.2 No. 14-13, 12th Edition, March 1, 2013.

CONDITIONS OF ACCEPTABILITY

1. These devices shall be mounted in an ultimate enclosure.
2. Spacings shall be maintained when mounted in the end use application.
3. These devices have been investigated for factory wiring only.
4. The endurance test for model HRS3FNH hp rating of 240 V ac, 1/4 HP was conducted under the test condition of 0.5 s on/0.5 s off for the first 1,000 cycles and 1 s on/9 s off for the remnant 99,000 cycles. The suitability shall be determined for end use application.

CONSTRUCTION DETAILS:

The product shall be constructed in accordance with the following description.

Tolerances - Unless otherwise stated, all indicated dimensions are nominal.

Corrosion Protection - All parts are of corrosion resistant material or plated or painted as protection against corrosion.

* Spacing - Spacings have been evaluated in accordance with UL 840, Standard for Insulation Coordination Including Clearances and Creepage Distances for Electrical Equipment, 3rd Edition, table 8.1 and 9.1, CSA C22.2 No.14-13, table 35 and 55. Spacing through the system was based on the pollution degree 3 and Material Groups III.

*

Location	250 V	
Between any uninsulated live parts and an uninsulated live part of opposite polarity, uninsulated grounded part other than the enclosure or exposed metal parts. UL 840, Table 8.1 and 9.1, (CSA C22.2 No.14-13, Table 35 and 55)	Through air	Over surface
	3.0 mm (3.0)	4.0 mm (5.0)

*

Tolerances - Unless specified otherwise, all indicated dimensions are nominal.

Corrosion Protection - All parts are of corrosion resistant material or are plated or painted as corrosion protection.

Markings - Markings may be molded, die-stamped, paint-stenciled, stamped, laser engraved or etched in metal or indelibly stamped on aluminum, pressure-sensitive label secured by adhesive. Unless otherwise specified, pressure sensitive labels which contain any of the required markings, shall be R/C (PGDQ2) or R/C (PGJI2), Printing Material, it shall be rated for a max. operating ambient of 105°C (or better) Series, and shall also be suitable for 0°C (indoor use) operating ambient, material shall be suitable for use on each type of surface to which applied. If R/C (PGJI2), Printing Material was employed. The combination of the ink (ribbon) and the label material shall be used per the manufacturer's UL specifications. The printing of the label shall be done using compatible printing equipment.

A relay intended for television applications and tested in accordance with Section 49 shall be marked "TV-X," where "TV" signifies the television and "X" is the steady-state current rating of the relay to be replaced by the actual ampere value (such as TV-5, TV-3, and the like).

Markings - The devices shall be plainly marked with Recognized company name and/or trade mark, model number and/or electrical ratings optional.

Markings - The following information shall be provided on the product or instruction manual and shipped with the device.

- a. "SAT" or similar verbiage.

Markings - equipment shall be marked in a visible manner with the following: "SUITABLE FOR OVERVOLTAGE CATEGORY III, AND SHALL PROVIDE PROTECTION FOR A RATED IMPULSE WITHSTAND VOLTAGE PEAK OF 4 kV" or equivalent.

Zertifikat

Certificate



Zertifikat Nr. *Certificate No.*
R 50223752

Blatt *Page*
0005

Ihr Zeichen *Client Reference*
L.Y.H.

Unser Zeichen *Our Reference*
01-WLP- 15049262 004

Ausstellungsdatum
10.12.2018

Date of Issue
(day/mo/yr)

Genehmigungsinhaber *License Holder*
Zhejiang HKE Relay Co., Ltd.
28 Jiacun Industry Area
Ningbo, Zhejiang 315135
P. R. China

Fertigungsstätte *Manufacturing Plant*
Zhejiang HKE Relay Co., Ltd.
28 Jiacun Industry Area
Ningbo, Zhejiang 315135
P. R. China

Prüfzeichen *Test Mark*



Geprüft nach *Tested acc. to*
EN 61810-1:2015

Zertifiziertes Produkt (*Geräteidentifikation*)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

Relay (Electromechanical elementary relays)

as page 0001

Additional ratings for

Contact Loads : 250VAC
16A
Electrical Endurance : 50 000 cycles
Ambient Temperature : -40°C to +85°C

Endurance test in accordance with clause 17 of IEC60730-1:

Rated Voltage : 250VAC
Rated Current : 16(3)A
Number of Automatic Cycles: 50 000

Remark:

Appendix 1 dated on 14-11-2018 replaces Appendix 1 dated on 29-05-2012.

ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.

This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Zertifizierungsstelle

Leeham Zhuang



产品认证证书

证书编号：CQC12002076143

申请人名称及地址

浙江汇港电器有限公司
浙江省宁波市鄞州区云龙镇

制造商名称及地址

浙江汇港电器有限公司
浙江省宁波市鄞州区云龙镇

生产企业名称及地址

浙江汇港电器有限公司(V002493)
浙江省宁波市鄞州区云龙镇甲村(架山)162号

产品名称和系列、规格、型号

继电器

HRS3F 系列:触点负载: 5A 250VAC, 10A 250VAC, 16A 250VAC; 线圈电压: 3VDC、5VDC、6VDC、9VDC、12VDC、24VDC; 线圈功率: 0.45W、0.2W; 电气寿命: 1E5 周期(5A,10A)、5E4 周期(16A); 机械寿命: 5E5 周期; 环境温度: -40℃~85℃; RT II 系列命名方式见证书附件

产品标准和技术要求

GB/T21711.1-2008

认证模式

产品型式试验+初次工厂检查+获证后监督

上述产品符合 CQC11-462155-2010 认证规则的要求, 特发此证。

发证日期: 2018年12月12日

本证书的有效性依据发证机构的定期监督获得保持。

本证书为变更证书, 证书首次颁发日期: 2012年07月11日

主任: _____

陆楠



中国质量认证中心

中国·北京·南四环西路188号9区100070

<http://www.cqc.com.cn>

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产品认证证书

附 录

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证书编号：CQC12002076143

纸 号：140195

型号命名方法：

HRS3F x y-S-DCXXV-A
1 2 3 4 5 6

1. 继电器系列号 HRS3F

2. x 代表触点材质，其中空白为 AgSnO₂ (Ag88%, 5A), N 为 AgSnO₂ (Ag85.5%, 10A) 或 AgSnO₂ In₂O₃/Cu (10A), T 为 AgSnO₂ In₂O₃/Cu (16A)

3. y 代表线圈功率，其中空白为 0.45W, H 为 0.2W

4. S 代表塑封形式为封胶型

5. 线圈电压，分别为 DC3V, DC5V, DC6V, DC9V, DC12V, DC24V

6. A 表示常开型触点形式

注：R. C. 标识代表“N”为 AgSnO₂ (Ag85.5%, 10A)，R. C. I 标识代表“N”为 AgSnO₂ In₂O₃/Cu (10A)。

注：此附录与证书同时使用时有效。

主任： 陆梅



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