S P E C I F I C A T I O N

943-1C-24DS-10A

1. COIL DATA（线圈参数）

1.1	Nominal Voltage（额定电压）	24VDC
1.2	Coil Resistance（线圈电阻）	1600Ω±10% at 20ºC
1.3	Nominal Current（额定电流）	15mA±10% at 20ºC
1.4	Operating Voltage（感动电压）	18VDCMax. at 20ºC
1.5	Release Voltage（释放电压）	2.4VDCMin. at 20ºC
1.6	Maximum Voltage（最大电压）	31.2VDC at 20ºC

1.7	Start characteristics in high temperature be condition （高温条件下启动特性）	The coil contact rated current shall 22.8 VDC or less passed to the contact at an ambient temperature of 40ºC for 2h contact shall be turned off and pick-up voltage of the relays immediately measured at the same atmospheres. （继电器在环境温度 40ºC 持续 2 小时吸合，断开后在同样环境条件下立即测试感动电压）

1.8	Nominal Power Consumption（线圈功耗）	360mW

2. CONTACT DATA（接点参数）

2.1	Contact Arrangement（接点形式）	1 Form C
2.2	Contact Material（接点材质）	Ag Alloy
2.3	Contact Rating（接点负载）	10A/277VAC 12A/30VDC
2.4	Max. Switching Voltage（最大通断电压）	277VAC(10A) 30VDC(12A)
2.5	Max. Switching Current（最大通断电流）	15A
2.6	Max. Switching Power（最大功率）	2770VA 360W
2.7	Min. Switching Current（最小通断电流）	100mA 5VDC
2.8	Contact Resistance（Initial Value）（接触电阻（初始数值））	Max. 100mΩ (6VDC 1A)

2.9	Life Expectancy（寿命）	
	Electrical（电气寿命）	100,000 operations （frequency 360 operations/hr)
	Mechanical（机械寿命）	10,000,000 operations （frequency 18,000 operations/hr)

3. GENERAL DATA（基本参数）

3.1	Insulation Resistance（绝缘电阻）	Min. 100MΩ 500VDC
3.2	Dielectric Strength（介质耐压）	Trip current：2mA Measuring frequency：50/60Hz Testing transformer capacity：500VA
	Between Open Contact（接点间）	750VAC 1min.
	Between Contact and Coil（线圈与接点间）	1500VAC 1min.
3.3	Surge Strength（冲击电压）	2500V
3.4	Operate Time（动作时间）	Max. 10ms
3.5	Release Time（开放时间）	Max. 5ms.
3.6	Operate Temperature Range（环境温度）	- 40ºC ～+85ºC(No freezing 无结冰)
3.7	Relative Humidity（环境湿度）	85% at40ºC
3.8	Terminal Strength（端子强度）	10N for 10 ±1Sec. by pushing and pulling the relay terminal Without looseness or bending of terminal. Clause 1.4-1.5,2.8,3.1-3.5 shall be satisfied
3.9	Shock Resistance（抗冲击）	1000m/s²,5 shock（each direction of X,Y,Z）
	Endurance（耐久冲击性试验）	（a total 15 shock）Duration of the pulse：6mm For Other procedures, refer to IEC Pub.68-2-27 Without deformation of case or excessive Looseness of terminals, Clause 1.4-1.5,2.8,3.1-3.5 shall be satisfied.
	Misoperation（误动作试验）	100m/ s²,3 shock(each direction of X,Y,Z)（a total 9 shock）Duration of the pulse：6mm refer to IEC Pub.68-2-27 There shall be no contact chatter time for 1ms or more.
3.10	Vibration Resistance（抗振动）	Double amplitude 1.5mm,10-55Hz/min.
	Endurance（耐久振动性试验）	2h（each direction of X,Y,Z）refer to IEC Pub.68-2-27 Without deformation of case or excessive Looseness of terminals, Clause 1.4-1.5,2.8,3.1-3.5 shall be satisfied. For Other procedures, refer to IEC Pub.68-2-27
	Misoperation（误动作性试验）	Double amplitude 1.5mm.10-55Hz/min.5min.（each direction of X,Y,Z） refer to IEC Pub.68-2-27 There shall be no contact chatter time for 1ms or more.

3.11 Cold（耐寒）	**- 40 ±3ºC for 96h（refer to IEC Pcb.68-2-2）** **Contact resistance 100mΩ or less.** **1.4-1.5, 3.1-3.5shall be satisfied.**
3.12 Dry Heat（耐热）	**85 ±2ºC for 96h（refer to IEC Pcb.68-2-2）** **Contact resistance 100mΩ or less.** **1.4-1.5,3.1-3.5 shall be satisfied.**
3.13 Damp Heat（耐湿性试验）	**40 ±2 ºC ,90-95% for 96h** **For other procedures refer to IEC Pcb.68-2-3** **Contact resistance 100mΩ or less.** **Insulation resistance 1000MΩ or more.** **1.4-1.5, 3.1-3.5 shall be satisfied.**
3.14 Solderability（可焊性）	**Solder should be finished on dipped surface bath melted 260 ºC ±5ºC for 5 sec. or 90% of he dipped portion shall be solder at 235 ±5ºC for 5 sec.**
3.15 Resistance to Soldering Heat（耐锡热能力）	**No trouble on construction and relay performance when the relay terminal is dipped in the soldering bath of melted solder at 260 ºC ±5ºC for 10 ±1 sec. or 350ºC for 3 sec.** **Immersion depth：2 ±0.5mm from pieces parts** **Thickness of Printed wiring board：1.6mm** **Test method ;**
3.16 Resistance to sulfuration（耐硫化）	**Mixing concentration : $S0_2$ 10ppm + H_2S 3ppm** **Temperature（温度）: 40ºC** **Humidity（湿度）: 75%** **Time（时间）: 72 hours** **Contact resistance value shall be relative to twice or less to the value before the test.**
3.17 Weight（重量）	**10g approximately**
3.18 Safety Standard（安规论证）	**UL 编号:E162117** **TUV 编号:R50048093** **CQC 编号:CQC02001001785**

3.19 Environment-related substance to be Controlled（与环境有关的实质内容加以控制）

***Cadmium and cadmium compounds（镉和镉化合物）**

***Lead and lead compounds（铅和铅化合物）**

***Hexavalent chromium compounds（六价铬化合物）**

***PCB（多氯联苯）**

***PCN（多氯化萘）**

***CP（氯代烷烃）**

***Mirex(Perchlordecone)（灭蚁灵）**

***Other chlorinated organic compounds（其它有机氯化合物）**

***PBB（多溴联苯）**

***PBDE（多溴联苯醚）**

***TBBP-A-bis（四溴双酚-A-双（2，3，二溴丙醚）**

***Other brominated organic compounds（其它有机溴化合物）**

***Organic tin compounds（Tributyl tin compounds, Triphenyl Tin compounds）**

有机锡化合物（三丁锡化合物，三苯锡化合物）

***Asbestos（石棉）**

***Azo compounds（偶氮化合物）**

***Formaldehyde（甲醛）**

***PVC and PVC blends（聚氯乙烯和聚氯乙烯化合物）**

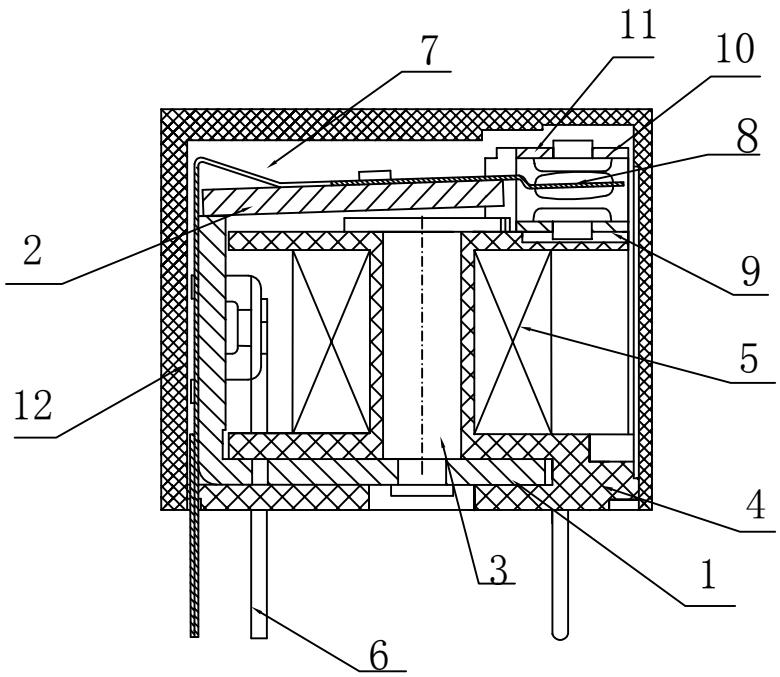
NOTICE ON MATERIAL AND MANUFACTUREING PROCESS

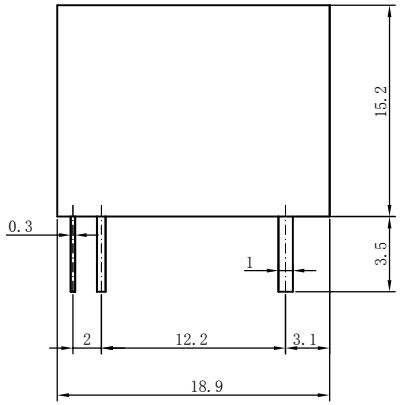
●Don't change written contents and append them

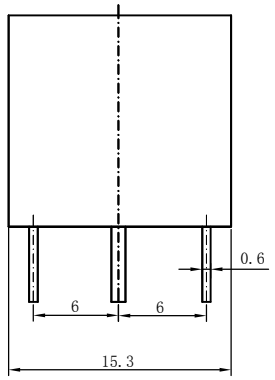
1. This part should not contain any substances which are specified in SS-00259-1*
2. Clarify by delivery specifications about the existence of use of the substance which are specified in SS-00259-1*
3. In order to make sorting of plastic waste easy ,material symbols is marked on the plastic part .For details on marking symbols ,refer to SS-00195-1 "Marking of plastic parts and Packaging material". Marking may be omitted in the following cases：
   - Not enough space to apply the marking；
   - Marking would interfere with performance or functional requirements；
   - Marking technically not feasible due to specific production method.
4. Purchase ink, paint, wire rods, and molding resins only from the business partners that Sony approves as Green Partners.

※ SS-00259-1：Management Standards for the Restrictively-used Substances included in Parts and Devices

Remark：If the supplier does not yet have a copy of SS-00195-1 and 00259-1, the local purchasing department will provide it.

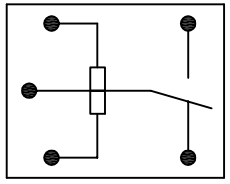




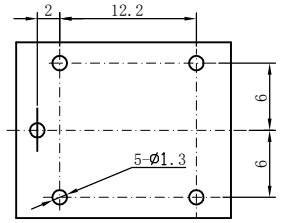


Outline Dimensions
（外形尺寸）

Dimensions:≤5mm±0.2mm，＞5mm±0.3mm
尺寸公差:≤5mm±0.2mm，＞5mm±0.3mm



Circuit diagram
（接线图）



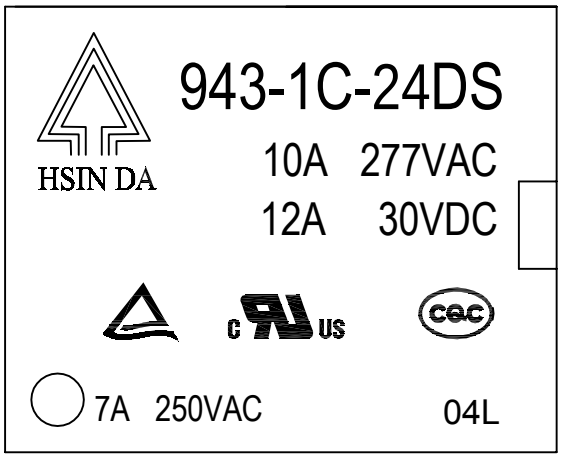
Assembling
（孔位置图）

The tolerance of PCB thru hole:＋0.2mm
印刷电路板孔：＋0.2mm

NO.	Name （名称）		pcs	Material （材质）		Remark（备注）
12	Dust cover	（外盖）	1	PBT		
11	NC Contact terminal	（NC接点端子）	1	H62	（黄铜）	
10	Stationary contact	（平接点）	2	Ag Alloy	（银合金）	
9	NO Contact terminal	（NO接点端子）	1	H62	（黄铜）	
8	Movable contact	（中接点）	1	Ag Alloy	（银合金）	
7	Movable contact arm spring	（中弹片）	1	Q Sn	（磷青铜）	
6	Bobbin terminal	（线轮端子）		Copper alloy solder plated	（铜包钢线）	
5	Copper wire	（线圈）		3UEW	（铜+聚酯漆）	
4	Bobbin	（线轮）	1	PBT		
3	Core	（铁芯）	1	DT4C	（纯铁）	
2	Armature	（磁极）	1	DT4E	（纯铁）	
1	Yoke	（支架）	1	DT4E	（纯铁）	

943 TYPE RELAY DIMENSION AND MATERIAL（尺寸和材料） LIYANG HSINDA

943 MARKING(印刷图)

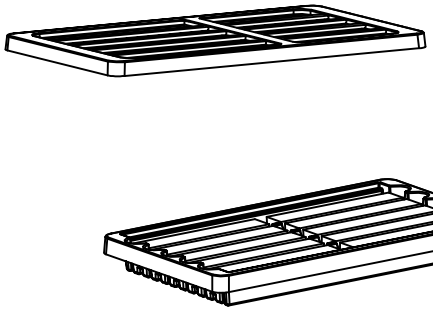


943: Model number(型号)
1C : Contact Arrangement = 1 Form C(接点形式)
24 : Coil voltage = 24V(额定电压)
D : Coil type = DC(线圈形式)
S : Sealed Type (密封型)

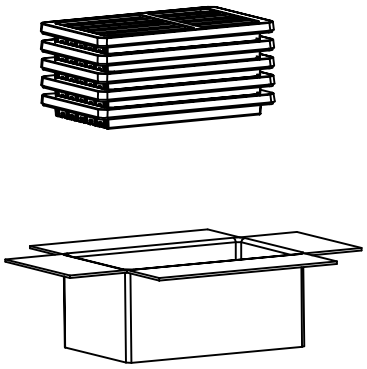
10A 277VAC
12A 30VDC
7A 250VAC
} Contact Rating(接点负载)

0 : Year(年)
4 : Month(月)
L : Liyang Factory(溧阳工厂)

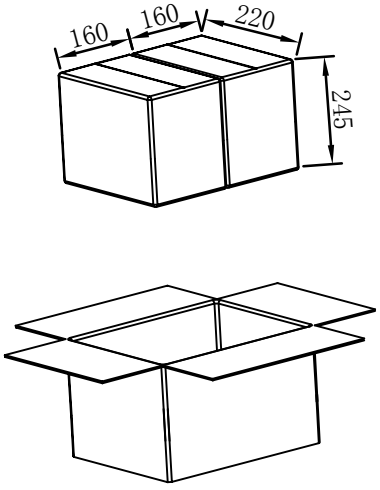
943 PACKING （包装图）



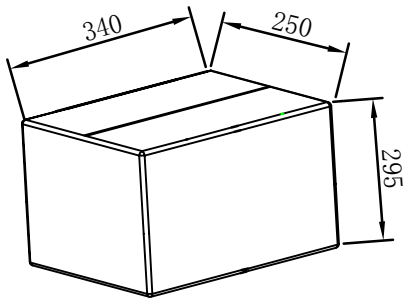
50 Pieces in one Packing Box



500 Pieces in one inside box
10 Packing Box in One inside box



1000 Pieces in one carton
2 box in One carton



序号	品　名	材　质
1	Packing Box 包装盒	包装盒上盖：透明PET　包装盒下盒：透明PET
2	Inside box　内箱	瓦楞纸板
3	Out Carton　外箱	瓦楞纸板

溧阳欣大精密电子有限公司

UL Product iQ™

NRNT2.E162117 - SWITCHES, INDUSTRIAL CONTROL - COMPONENT

Switches, Industrial Control - Component

See General Information for Switches, Industrial Control - Component

HSIN DA PRECISION CO LTD E162117
10TH FL
951 CHUNG CHENG RD
CHUNG HO DIST
NEW TAIPEI, 235 TAIWAN

Investigated to ANSI/UL 508

Industrial Control Switches Model(s) 133 133 series, followed by 1A, followed by 5DS, 9DS, 12DS, 24DS or 48DS, followed by F or Nil, maybe followed by additional letters or numbers

942, may be followed by H, followed by -1A, -1B, -1C, -2A, -2B, or -2C, followed by -3 through -110 or -6 through -240, followed by A or D, may be followed by S, may be followed by -T, may be followed by -F, may be followed by 3, may be followed by additional suffixes or numbers.

Magnetic switches for use in non-industrial equipment Model(s) Y16-1A-12DP

Investigated to

Industrial Control Switches Model(s) 941, may be followed by H, followed by 2, followed by C, followed by 3 through 48, followed by D

943 followed by 1A, 1B, or 1C, followed by 3 through 48, followed by D, may be followed by S, may be followed by F

943 followed by A, followed by 1A, 1B, or 1C, followed by 3 through 48, followed by D, may be followed by S, may be followed by F.

945 followed by -1A, followed by -5 through -48 V, followed by D, followed by S or Nil.

946 may be followed by H, followed by -1, followed by C, followed by -5, -6, -9, -12, or -24, followed by D, may be followed by -F

947 followed by -1A, followed by -3, -5, -6, -9, -12, -18, -24, or -48, followed by D

95, followed by 1 or 2 followed by 1, 2, 3 or 4, followed by A, B or C, f/b 6 through 240, f/b A or D, may be f/b P, may be f/b M or B, may be f/b N or L, may be followed by G, may be f/b F, may be followed by "."

953 followed by 1A, 1B, or 1C, followed by -5 through -110, or -6 through -240, followed by D or A, may be followed by G, A, B, E, E1, K, M, H, or GH, may be followed by F, may be followed by S, may be followed by 1, 2, or S, may be followed by additional letters and/or numbers.

957 may be followed by H, followed by -1A, -1B or -1C, followed by -3, -5, -6, -9, -12, -24,or -48, followed by D, may be followed by -S, may be followed by G, may be followed by HV

981, may be followed by 1A, or 2A, followed by 3 through 48, followed by D, may be followed by S, may be followed by L or D, may be followed by S.

982, may be followed by H, followed by -1A or -1C, maybe followed by -3, -5, -6, -9, -12, -24, or -48, followed by D, maybe followed by S.

Marking: Company name or tradename "HSIN" , "HSIN DA" or trademark  and model designation on the product or on the smallest unit container in which the product is packaged.

Last Updated on 2019-12-20

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

UL Product iQ™

NRNT8.E162117 - SWITCHES, INDUSTRIAL CONTROL CERTIFIED FOR CANADA - COMPONENT

Switches, Industrial Control Certified for Canada - Component

See General Information for Switches, Industrial Control Certified for Canada - Component

HSIN DA PRECISION CO LTD E162117
10TH FL
951 CHUNG CHENG RD
CHUNG HO DIST
NEW TAIPEI, 235 TAIWAN

Investigated to CAN/CSA C22.2 No. 14-13

Industrial Control Switches Model(s) 133 133 series, followed by 1A, followed by 5DS, 9DS, 12DS, 24DS or 48DS, followed by F or Nil, maybe followed by additional letters or numbers

942, may be followed by H, followed by -1A, -1B, -1C, -2A, -2B, or -2C, followed by -3 through -110 or -6 through -240, followed by A or D, may be followed by S, may be followed by -T, may be followed by -F, may be followed by 3, may be followed by additional suffixes or numbers.

Investigated to CAN/CSA C22.2. No. 14-10

Magnetic switches for use in non-industrial equipment Model(s) Y16-1A-12DP

Investigated to

Industrial Control Switches Model(s) 941, may be followed by H, followed by 2, followed by C, followed by 3 through 48, followed by D

943 followed by 1A, 1B, or 1C, followed by 3 through 48, followed by D, may be followed by S, may be followed by F

943 followed by A, followed by 1A, 1B, or 1C, followed by 3 through 48, followed by D, may be followed by S, may be followed by F.

945 followed by -1A, followed by -5 through -48 V, followed by D, followed by S or Nil.

946 may be followed by H, followed by -1, followed by C, followed by -5, -6, -9, -12, or -24, followed by D, may be followed by -F

947 followed by -1A, followed by -3, -5, -6, -9, -12, -18, -24, or -48, followed by D

95, followed by 1 or 2 followed by 1, 2, 3 or 4, followed by A, B or C, f/b 6 through 240, f/b A or D, may be f/b P, may be f/b M or B, may be f/b N or L, may be followed by G, may be f/b F, may be followed by "."

953 followed by 1A, 1B, or 1C, followed by -5 through -110, or -6 through -240, followed by D or A, may be followed by G, A, B, E, E1, K, M, H, or GH, may be followed by F, may be followed by S, may be followed by 1, 2, or S, may be followed by additional letters and/or numbers.

957 may be followed by H, followed by -1A, -1B or -1C, followed by -3, -5, -6, -9, -12, -24,or -48, followed by D, may be followed by -S, may be followed by G, may be followed by HV

981, may be followed by 1A, or 2A, followed by 3 through 48, followed by D, may be followed by S, may be followed by L or D, may be followed by S.

982, may be followed by H, followed by -1A or -1C, maybe followed by -3, -5, -6, -9, -12, -24, or -48, followed by D, maybe followed by S.

Marking: Company name or tradename "HSIN" , "HSIN DA" or trademark  , model designation and the Recognized Component Mark for Canada,  on the product or on the smallest unit container in which the product is packaged.

Last Updated on 2019-12-20

Industrial Services, Mobility and Transport,
Product Safety and Quality, Education and
Consulting, IT Services and Innovation

TÜVRheinland®
Precisely Right.

Hsin Da Precision Co., Ltd.
Ms. Kelly Wu, Sales Representative
Sales Department
10F., No. 951, Zhongzheng Rd.,
Zhonghe Dist., New Taipei City 235
Taiwan, R.O.C.

Date : 06.11.2017
Our ref. : VWW ZTW2
Your ref.: 12097757

Ref : R TÜV-Mark Approval

Type of Equipment : Electromechanical Elementary Relays
Model Designation : See Certificate
Certificate No. : R 50048093 0007
Report No. : 11001469 006

Dear Ms. Kelly Wu,

The above specified equipment has been tested and found to be in accordance with the relevant requirements.

Please find enclosed your certificate as specified above.

If cancellation of the certificate is submitted by 15 November in a given year, no fee will be charged for the following year.

The certificate is issued with the reservation that the license holder applies all information required in § 6 of the ProdSG related to name and address of the manufacturer or his authorized representative / importer, including their respective contact addresses on the product prior to marketing of the product in the European Economic Area.

With kind regards,

Certification Body

Dipl.-Ing. W. Feuker

Enclosure

TÜV RHEINLAND TAIWAN LTD.
11F., No. 758, Sec. 4, Bade Rd.,
Songshan Dist., Taipei City 105,
Taiwan R. O. C.
Tel. (02) 2172-7000
Fax (02) 2528-0018
http: //www.tuv.com

TAICHUNG BRANCH:
No. 9, Lane 36, Sec. 3, Minsheng Rd.,
Daya Dist., Taichung City 428
Taiwan, R. O. C.
Tel. (04) 2560-2998
Fax (04) 2566-3598

Zertifikat *Certificate*

TÜVRheinland®

Zertifikat Nr. *Certificate No.*
R 50048093

Blatt *Page*
0007

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Ausstellungsdatum**	*Date of Issue (day/mo/yr)*
12097757	ZTW2-VWW- 11001469 006	06.11.2017	

Genehmigungsinhaber *License Holder*
Hsin Da Precision Co., Ltd.
10F., No. 951, Zhongzheng Rd.,
Zhonghe Dist., New Taipei City 235
Taiwan, R.O.C.

Fertigungsstätte *Manufacturing Plant*
Liyang Xinda Precision Electronics Co., Ltd.
No. 8, Tengfei Rd.
Kunlun Economic Development Zone of Liyang, Jiangsu
P. R. China

Prüfzeichen *Test Mark*

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

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

Lizenzentgelte - Einheit *License Fee - Unit*

Relais (Electromechanical Elementary Relays)

Wie Blatt (As Page) 01

Änderung (Change)

Prüfgrundlage : siehe oben
(Test Requirement) (see above)

TÜV Rheinland LGA Products GmbH Zertifizierungsstelle TÜVRheinland®

ANLAGE (Appendix): 1.2

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.

Zertifizierungsstelle

Dipl.-Ing. W. Feuker

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

产品认证证书

证书编号：CQC02001001785

申请人名称及地址

溧阳欣大精密电子有限公司
江苏省溧阳市昆仑经济开发区腾飞路8号

制造商名称及地址

溧阳欣大精密电子有限公司
江苏省溧阳市昆仑经济开发区腾飞路8号

生产企业名称及地址

溧阳欣大精密电子有限公司 (V000865)
江苏省溧阳市昆仑经济开发区腾飞路8号

产品名称和系列、规格、型号

继电器

943/943A系列（单元及规格详见附页）触点负载：15A 277VAC;10A 277VAC;12A 125VAC;12A 30VDC; 线圈：5VDC, 6VDC, 9VDC, 12VDC, 24VDC, 48VDC 0.36W 电气寿命：1E4周期；机械寿命：5E4周期；环境温度：-30℃-85℃RT II

产品标准和技术要求

GB 21711.1-2008

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CNCA-V01-018:2003认证规则的要求，特发此证。

发证日期：2016年01月06日

证书有效期内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：2002年11月08日

主任：

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

C 0079555

溧阳欣大精密电子有限公司

部 件 成 份 展 开 表

Material Data Sheet

产品名称 Commodity Name	产品料号 Product No.	组成部件 Ingredients or Parts	组成部件 均质材料名称 Homogeneous Material Name	均质材料中有害物质含量 Hazardous Substances Concentration in Homogeneous Material (PPM)										有害物质 测试报告编号 Test Report No. of Hazardous Material	测试日期 Test Date (YY-MM-DD)
				Cd	Pb	Hg	Cr6+	PBB	PBDE	DEHP	DBP	BBP	DIBP		
943-1C-24DS-10A	15300	线轮	PBT	ND	14mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	A2200013592101E	2020/1/19
		线轮端子	铜包钢线	ND	ND	ND	ND	/	/	/	/	/	/		
		支架	DT4E	ND	ND	ND	ND	/	/	/	/	/	/		
		铁芯	DT4C	ND	ND	ND	ND	/	/	/	/	/	/		
		磁极	DT4E	ND	ND	ND	ND	/	/	/	/	/	/		
		中弹片	磷青铜	ND	10mg/kg	ND	ND	/	/	/	/	/	/		
		NC接点端子	黄铜	ND	44mg/kg	ND	ND	/	/	/	/	/	/		
		NO接点端子	黄铜	ND	44mg/kg	ND	ND	/	/	/	/	/	/		
		中接点	银合金	ND	ND	ND	ND	/	/	/	/	/	/		
		平接点	银合金	ND	ND	ND	ND	/	/	/	/	/	/		
		外盖	PBT	ND	14mg/kg	ND	ND	ND	ND	ND	ND	ND	ND		
		漆包线	铜+聚酯漆	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		