

# Zertifikat

# Certificate



Zertifikat Nr. *Certificate No.*  
R 50139459

Blatt *Page*  
0001

Ihr Zeichen *Client Reference*  
C.C.G.

Unser Zeichen *Our Reference*  
01-KSH- 15029271 001

Ausstellungsdatum  
01.12.2008

*Date of Issue.*  
(day/mo/yr)

### Genehmigungsinhaber *License Holder*

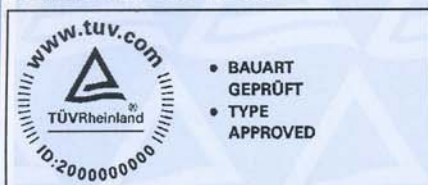
Dongguan Sanyou Electrical  
Appliances Co., Ltd.  
Bolan Road, Xitou Industrial Zone  
Houjie Town  
Dongguan City, Guangdong 523952  
P.R. China

### Fertigungsstätte *Manufacturing Plant*

Dongguan Sanyou Electrical  
Appliances Co., Ltd.  
Bolan Road, Xitou Industrial Zone  
Houjie Town  
Dongguan City, Guangdong 523952  
P.R. China

### Prüfzeichen *Test Mark*

Geprüft nach *Tested acc. to*  
EN 61810-1:2004



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

Lizenzentgelte - Einheit  
*License Fee - Unit*

Relais (Electromechanical Elementary Relays)

|   |                                     |   |
|---|-------------------------------------|---|
| Type Designation                              | : SPA-x-1yDMv-w-t (SANYOU)          | 5 |
|   | x,y,v,w,t = See appendix 1          | 5 |
| Rated Coil Voltage                            | : DC 3V;5V;6V;9V;12V;18V;24V or 48V |   |
| Rated Coil Power                              | : 0,2W                              |   |
| Ambient Temperature                           | : -40°C to +85°C                    |   |
| Contact Loads                                 | : 10A 250VAC<br>10A 30VDC           |   |
| Electrical Endurance                          | : 100 000                           |   |
| Mechanical Endurance                          | : 10 000 000                        |   |
| Type of Interruption                          | : Micro-Disconnection               |   |
| Insulation System between<br>Coil and Contact | : Basic Insulation                  |   |

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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. G. Reimann



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0002

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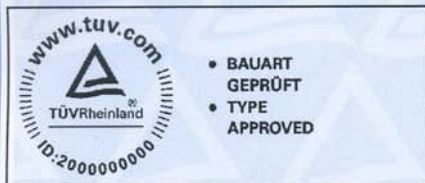
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## Fertigungsstätte Manufacturing Plant

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Relais (Electromechanical Elementary Relays)

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Endurance test in accordance with clause 17 of IEC 60730-1:

Rated Voltage : AC 250V DC 30V  
Rated Current : 10A 10A  
Electrical Endurance: 100 000 100 000

### Remark:

The labelling requirements acc. to EU Directive 2001/95 have to be observed for distribution within the EEA.

ANLAGE (Appendix): 1.

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TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln  
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

Dipl.-Ing. G. Reimann



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**Genehmigungsinhaber *License Holder***

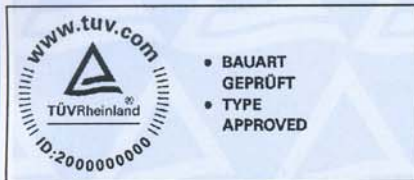
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P.R. China

**Fertigungsstätte *Manufacturing Plant***

Dongguan Sanyou Electrical  
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P.R. China

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Geprüft nach *Tested acc. to*  
EN 61810-1:2004



Zertifiziertes Produkt *(Geräteidentifikation)*  
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Lizenzentgelte - Einheit  
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Relais (Electromechanical Elementary Relays)

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Addition

Name of Factory : See above

Address of Factory : See above

ANLAGE (Appendix): 1.

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Dipl.-Ing. G. Reimann





**Certificate No.** R50139459 0001-0002 **Our Reference** 01-KSH-15029271 001 **Appendix No.** 1

**Constructional Data Form (CDF) All-or-Nothing Electromechanical Relays** Page 1 of 3

License holder: Dongguan Sanyou Electrical Appliances Co., Ltd.  
Bolan Road, Xitou Industrial Zone, Houjie Town, Dongguan City, Guangdong 523952  
P.R. China

Factory1: Dongguan Sanyou Electrical Appliances Co., Ltd.  
(full address) Bolan Road, Xitou Industrial Zone, Houjie Town, Dongguan City, Guangdong 523952  
P.R. China

Factory2: Dongguan Sanyou Electrical Appliances Co., Ltd.  
(full address) Erhuan Road, Xitou Industrial Zone, Houjie Town, Dongguan City, Guangdong 523952  
P.R. China

Type or Model Number: SPA-x-1yDMv-w-t

Kind of device: Electromechanical Elementary Relay

**Specification (contact-circuit )**

|   |                              |                     |
|---|------------------------------|---------------------|
| Contact material  | AgSnO <sub>2</sub> and AgCdO |                     |
| Contact configuration   | Make contact                 |                     |
| Rated contact voltage   | 250VAC                       | 30VDC               |
| Rated contact current   | 10A                          | 10A                 |
| cos φ   | 1                            | ---                 |
| L/R   | ---                          | 0                   |
| Frequency (Hz)  | 50                           | ---                 |
| Schematics for contact loading<br><small>*according to Tab 13 of EN 61810-1: 2004</small> | Single-pole: a               | Single-pole: a      |
| Kind of contacts  |                              |                     |
| Number of cycles for electrical endurance / Frequency of operation                        | 100,000<br>1200 Cycles/h     |                     |
| Number of cycles for mechanical endurance / Frequency of operation                        | 10,000,000<br>18000 Cycles/h |                     |
| Duty factor   | 50%                          | 50%                 |
| Type of interruption  | Micro-disconnection          | Micro-disconnection |
| Insulation resistance   | ≥ 100M Ω (500VDC)            |                     |

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13.10.2008

Kenny Shi

Date

Name

Signature



Certificate No. R50139459 0001-0002 Our Reference 01-KSH-15029271 001 Appendix No. 1

**Constructional Data Form (CDF) All-or-Nothing Electromechanical Relays** Page 2 of 3

\* Endurance according to IEC 60730-1 (ratings, number of cycles, frequency of operation)

Above Electrical ratings are also tested in accordance with clause 17- endurance of IEC 60730-1:1999

**Specification (coil-circuit)**

|   |  |     |     |     |     |      |      |       |
|---|--|-----|-----|-----|-----|------|------|-------|
| Rated coil voltage (Rated coil voltage)<br><input checked="" type="checkbox"/> DC <input type="checkbox"/> AC | 03   | 05  | 06  | 09  | 12  | 18   | 24   | 48    |
| Coil resistance (at 20°C) (Ω) ± 10%   | 45   | 125 | 180 | 405 | 720 | 1620 | 2880 | 11520 |
| Frequency for AC (Hz)   | ---  |     |     |     |     |      |      |       |
| Rated power   | Abt 0,20w  |     |     |     |     |      |      |       |
| Operative range   | <input type="checkbox"/> class 1: 80% to 110% of rated coil voltage<br><input type="checkbox"/> class 2: 85% to 110% of rated coil voltage<br><input checked="" type="checkbox"/> other: 75% to 130% of rated coil voltage |     |     |     |     |      |      |       |
| Thermal insulation class  | B  |     |     |     |     |      |      |       |

**Specification (general)**

|  |                      |   |  |
|--|----------------------|---|--|
| Overvoltage category   | II                   |   |  |
| Pollution degree   | 2                    |   |  |
| Test voltages  | coil-contact         | : 2,500VAC(50/60Hz) for 1min              |  |
|  | contact - contact    | : ---                                     |  |
|  | across open contact  | : 1,000 VAC( 50/60Hz)for 1min             |  |
|  | live parts - outside | : ---                                     |  |
| Minimum creepage distances   | coil-contact         | : 2,5mm                                   |  |
|  | contact - contact    | : ---                                     |  |
|  | across open contact  | : 2,0mm                                   |  |
|  | live parts - outside | : ---                                     |  |
| Minimum clearances   | coil-contact         | : 2,5mm                                   |  |
|  | contact - contact    | : ---                                     |  |
|  | across open contact  | : 0,3mm                                   |  |
|  | live parts - outside | : ---                                     |  |
| Insulation:<br><i>U<sub>i</sub> = 250V, OV-cat. II<br/>Material gr. IIIa, Poll. deg. 2</i> | coil-contact         | <input checked="" type="checkbox"/> basic | <input type="checkbox"/> reinforced <input type="checkbox"/> NA            |
|  | contact - contact    | <input type="checkbox"/> basic            | <input type="checkbox"/> reinforced <input checked="" type="checkbox"/> NA |
|  | across open contact  | <input checked="" type="checkbox"/> micro | <input type="checkbox"/> full <input type="checkbox"/> NA                  |
|  | live parts - outside | <input type="checkbox"/> basic            | <input type="checkbox"/> reinforced <input checked="" type="checkbox"/> NA |

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Certificate No. R50139459 0001-0002 Our Reference 01-KSH-15029271 001 Appendix No. 1

**Constructional Data Form (CDF) All-or-Nothing Electromechanical Relays** Page 3 of 3

|                                       |   |
|---------------------------------------|---|
| Ambient temperature                   | -40°C ~ +85°C   |
| Minimum mounting distance             | H: 3 mm V: 3 mm   |
| Relay technology category             | <input type="checkbox"/> RT 0 <input type="checkbox"/> RT I <input checked="" type="checkbox"/> RT II<br><input type="checkbox"/> RT III <input type="checkbox"/> RT IV <input type="checkbox"/> RT V   |
| <b>Terminals</b>                      |   |
| Terminal designation                  | N/A   |
| Type of terminals                     | <input type="checkbox"/> Screw terminals and screwless terminals<br><input type="checkbox"/> Flat quick-connect terminations<br><input checked="" type="checkbox"/> Solder terminals Solder terminals for PCB mounting<br>Maximum permissible steady-state temperature indicated by manufacturer: 160°C<br><input type="checkbox"/> Sockets<br><input type="checkbox"/> Alternative termination types |
| Material/plating of the terminal      | Brass(>70%Cu)   |
| Required preparation of the conductor | 1   |

| Plastic Parts |               |                  |               |                |
|---------------|---------------|------------------|---------------|----------------|
| Part          | Material name | Type designation | RTI (minimum) | Material Group |
| Cover         | PBT           | G2830            | 140           | III            |
| Bobbin        | PBT           | G2830            | 140           | III            |
| Base          | PBT           | G2830            | 140           | III            |

Type Nomenclature:

SPA-x-1yDMv-w-t

Basic designation: SPA

x stands for sealed type: S means standard sealed type, SH means sealed type washable

1 stands for number of poles: 1 pole

y stands for rated coil voltage(VDC):03;05;06;09;12;18;24;48

D stands for rated coil power: D means about 0.2w

M stands for contact type: M means make contact

v stands for contact material: blank means AgSnO<sub>2</sub>;1 means AgCdO

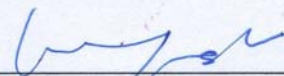
w stands for insulation system (for UL): F means class F ;B means class B; blank means standard type.

t means special parameter: blank means standard type; letter or number means special requirement which not effect constructions.

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