

# Zertifikat

# Certificate



Zertifikat Nr. *Certificate No.*  
R 50143456

Blatt *Page*  
0001

Ihr Zeichen *Client Reference*  
C.C.G

Unser Zeichen *Our Reference*  
01-KSH- 15030125 001

Ausstellungsdatum  
09.02.2009

*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.  
Erhuan 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 : SMIH-x-lyzuv-w-t (SANYOU) 5  
x,y,z,u,v,w,t = See appendix 1 7

Rated Coil Voltage : DC 3V;5V;6V;9V;12V;18V;24V or 48V

Rated Coil Power : 0,54W; 0,72W

Ambient Temperature : -40°C to +85°C

Contact Loads : 16A 250VAC or 30VDC

Electrical Endurance : 100 000

Mechanical Endurance : 1 000 000

Type of Interruption : Micro-Disconnection

Insulation System between  
Coil and Contact : Reinforced Insulation

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

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



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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 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

# Zertifikat

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Zertifikat Nr. / Certificate No.  
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0002

Ihr Zeichen / Client Reference  
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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  
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Zertifiziertes Produkt (Geräteidentifikation)  
Certified Product (Product Identification)

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




Zertifizierungsstelle

Dipl.-Ing. G. Reimann



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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

<b>Produktsicherheit und –qualität</b> <i>Product Safety and Quality</i>	 <b>TÜVRheinland®</b> Precisely Right.		
<b>Certificate No.</b> R50143456 0001-0002	<b>Our Reference</b> 01-KSH-15030125 001	<b>Appendix No.</b> 1	
<b>Constructional Data Form (CDF) All-or-Nothing Electromechanical Relays</b> Page 1 of 4			

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: SMIH-x-1yzuv-w-t  
 Kind of device: Electromechanical Elementary Relay

**Specification (contact-circuit )**

Contact material	AgSnO <sub>2</sub> or AgCdO	
Contact configuration	Make ; Change-over	
Rated contact voltage	250VAC	30VDC
Rated contact current	16A	16A
cos φ	1	---
L/R	---	0 ms
Frequency (Hz)	50/60Hz	---
Schematics for contact loading <small>*according to Tab 13 of EN 61810-1: 2004</small>	Single-pole: a; o	
Kind of contacts		
Number of cycles for electrical endurance / Frequency of operation	100,000 1200Cycles/h	
Number of cycles for mechanical endurance / Frequency of operation	1,000,000 18,000Cycles/h	
Duty factor	50%	
Type of interruption	Micro-disconnection	
Insulation resistance	≥1000 MΩ (500VDC)	

**TÜV Rheinland Group**

12.12.2008

Kenny Shi

Date

Name

Signature





Certificate No. R50143456 0001-0002 Our Reference 01-KSH-15030125 001 Appendix No. 1

**Constructional Data Form (CDF) All-or-Nothing Electromechanical Relays** Page 2 of 4

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

Above Electrical rating (16A, 250VAC, 100, 000cycles) is also tested in accordance with clause 17-endurance of IEC 60730-1:1999.

**Specification (coil-circuit)**

Rated coil voltage (Rated coil voltage) <input checked="" type="checkbox"/> DC <input type="checkbox"/> AC	0,72W								0,54W							
	03	05	06	09	12	18	24	48	03	05	06	09	12	18	24	48
Coil resistance (at 20°C) (Ω) ± 10%	12,5	36	50	112	200	450	820	3,300	17	47	68	150	270	600	1,100	4,400
Frequency for AC (Hz)	---															
Rated power	0,72W; 0,54W															
Operative range	<input checked="" type="checkbox"/> class 1: 80% to 110% of rated coil voltage <input type="checkbox"/> class 2: 85% to 110% of rated coil voltage <input type="checkbox"/> other:															
Thermal insulation class	F															

**Specification (general)**

Overvoltage category	II
Pollution degree	2
Test voltages	<i>coil-contact</i> : 5,000VAC(50/60Hz) for 1min <i>contact - contact</i> : --- <i>across open contact</i> : 1,000VAC(50/60Hz) for 1min - <i>live parts - outside</i> : ---
Minimum creepage distances	<i>coil-contact</i> : 16,0mm <i>contact - contact</i> : --- <i>across open contact</i> : 3,5mm <i>live parts - outside</i> : ---

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**Constructional Data Form (CDF) All-or-Nothing Electromechanical Relays** Page 3 of 4

Minimum clearances	coil-contact : 16,0mm contact - contact : --- across open contact : 0,3mm live parts - outside : ---
Insulation: <i>U<sub>i</sub> = 250V, OV-cat. II Material gr. IIIa, Poll. deg. 2</i>	coil-contact : <input type="checkbox"/> basic <input checked="" 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
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 <input type="checkbox"/> RT III <input type="checkbox"/> RT IV <input type="checkbox"/> RT V

**Terminals**

Terminal designation	N/A
Type of terminals	<input type="checkbox"/> Screw terminals and screwless terminals <input type="checkbox"/> Flat quick-connect terminations <input checked="" type="checkbox"/> Solder terminals PCB solder pin Maximum permissible steady-state temperature indicated by manufacturer: 160°C <input type="checkbox"/> Sockets <input type="checkbox"/> Alternative termination types
Material/plating of the terminal	Brass
Required preparation of the conductor	1

**Plastic Parts**

Part	Material name	Type designation	RTI (minimum)	Material Group
Cover	PBT	420SEO	130	IIIa
Bobbin	PBT	420SEO	130	IIIa
Base	PET	FR503	130	IIIa
Push Rod	PPS	R-4	130	IIIa



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**Constructional Data Form (CDF) All-or-Nothing Electromechanical Relays** Page 4 of 4

## Type Nomenclature:

SMIH-x-1yzuv-w-t

Basic designation: SMIH

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.

z stands for rated coil power: D means 0,72w; L means 0,54w.

u stands for contact type: M means make contact; blank means change-over contact.

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

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

t means special parameter: blank means standard type; letter or number means special requirement which don't affect constructions.

