

# Save It Easy<sup>®</sup>

The Ultimate Plug & Save e-Ballast

## International Standards Certificates of Compliance



## INLINE T5 series

## Summary

**Safety** IEC61347-1  
IEC61347-2-3

**EMC** EN55015  
EN61000-3-2  
EN61000-3-3  
EN61547

**Performance** IEC60929

**Factory Inspection** General Agreement with the  
Certification Bodies of the TRPS

**THD** General Testing

## **Safety**

***IEC61347-1 IECEE CB Scheme***

***Lamp Control Gear (General & Safety Requirements)***

***IEC61347-2-3 IECEE CB Scheme***

***Lamp Control Gear (Particular Requirements for A.C. – Supplied  
Electronic Ballast for Fluorescent Lamps)***

**Tested by PSB Corporation Pte Ltd, Singapore**

**Complied Models : INL-220-013-T5A  
INL-220-014-T5A  
INL-220-028-T5A  
INL-220-035-T5A  
INL-230-013-T5A  
INL-230-014-T5A  
INL-230-028-T5A  
INL-230-035-T5A  
INL-240-013-T5A  
INL-240-014-T5A  
INL-240-028-T5A  
INL-240-035-T5A**



IEC SYSTEM FOR CONFORMITY  
TESTING TO STANDARDS FOR  
SAFETY OF ELECTRICAL  
EQUIPMENT (IECEE) CB SCHEME

Ref. Certificate No.

SG-1327

## CB TEST CERTIFICATE

Issued by: PSB Corporation Pte Ltd

Registration date: 2003-12-29

Product: Electronic Ballasts for Fluorescent Lamps

Applicant: Grand Alliance International Limited 905 Paul Y. Centre, 51 Hung To Road, Kwun Tong, Kowloon, Hong Kong Hong Kong

Manufacturer: Grand Alliance International Limited 905 Paul Y. Centre, 51 Hung To Road, Kwun Tong, Kowloon, Hong Kong Hong Kong

Factory: Winbest Electronics and Plastics Factory No. 8 Chang Tang Industrial Zone, Yan Tian, Feng Gang, Dongguan, Guangdong, China China

Rating and principal characteristics: 220V~ or 230V~ or 240V~, 50/60Hz,  $t_a = 50$  deg C,  $t_c = 75$  deg C, 1) to 3) PF = 0.93; 0.08A; 1 x 13W T5FTL, 4) to 6) PF = 0.93; 0.08A; 1 x 14W T5FTL, 7) and 8) PF = 0.95; 0.15A; 1 x 28W T5FTL, 9) PF = 0.95; 0.14A; 1 x 28W T5FTL, 10) PF = 0.90; 0.20A; 1 x 35W T5FTL, 11) PF = 0.90; 0.19A; 1 x 35W T5FTL and 12) PF = 0.90; 0.18A; 1 x 35W T5FTL

Trade mark (if any): Save It Easy

Model/Type reference: 1) INL-220-013-T5A, 2) INL-230-013-T5A, 3) INL-240-013-T5A, 4) INL-220-014-T5A, 5) INL-230-014-T5A, 6) INL-240-014-T5A, 7) INL-220-028-T5A, 8) INL-230-028-T5A, 9) INL-240-028-T5A, 10) INL-220-035-T5A, 11) INL-230-035-T5A and 12) INL-240-035-T5A

Additional information:

Sample of product tested to be in conformity with IEC: 61347-1(ed.1)  
61347-2-3(ed.1)

Test Report Ref. No: 55S032362/DSM/THK

**COPY**

This CB Test Certificate is issued by the National Certification Body

PSB Corporation Pte Ltd  
1 Science Park Drive, Singapore 118221

Signed by: Christopher Hee

Date of issue: 2003-12-29



## **EMC**

**EN55015**

***Limits of Radio Disturbance of Electrical Lighting***

**EN61000-3-2**

***EMC Limits for Harmonic Current Emissions***

**EN61000-3-3**

***Limitation of Voltage Fluctuations and Flicker in Low-voltage Supply***

**EN61547**

***EMC Immunity Standard***

**Tested by TUV Rheinland Hong Kong Ltd**

**Complied Models : INL-220-013-T5A  
INL-220-014-T5A  
INL-220-028-T5A  
INL-220-035-T5A  
INL-230-013-T5A  
INL-230-014-T5A  
INL-230-028-T5A  
INL-230-035-T5A  
INL-240-013-T5A  
INL-240-014-T5A  
INL-240-028-T5A  
INL-240-035-T5A**

**Zertifikat****Certificate**

Zertifikat Nr. *Certificate No.*  
CC 50035199

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0001

Ihr Zeichen *Client Reference*  
E.Y.

Unser Zeichen *Our Reference*  
01-BMI- 14004649 002

Ausstellungsdatum  
09.01.2004

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

**Genehmigungsinhaber *License Holder***

Grand Alliance International Ltd.  
Room 905-907  
Paul Y Centre  
51 Hung To Road  
Kwun Tong, Kowloon  
Hong Kong

**Fertigungsstätte *Manufacturing Plant***

Winbest Electronics  
and Plastic Factory  
No. 8 Chang Tang Industrial Zone  
Yan Tian, Feng Gang  
Dongguan, Guangdong  
P.R. China

**Prüfzeichen *Test Mark*****Geprüft nach *Tested acc. to***

EN 55015:2000+A1+A2  
EN 61000-3-2:2000  
EN 61000-3-3:1995+A1  
EN 61547:1995+A1

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

Lizenzentgelte - Einheit  
*License Fee - Unit*

Elektronisches Vorschaltgerät (SAVE IT EASY INLINE-T5)

Bezeichnung : a) INL-220-028-T5A d) INL-220-035-T5A 15  
(Type Designation) b) INL-230-028-T5A e) INL-230-035-T5A  
c) INL-240-028-T5A f) INL-240-035-T5A

Bemessungsspannung : a) AC 220V, 50/60Hz d) AC 220V, 50/60Hz  
(Rated Voltage) b) AC 230V, 50/60Hz e) AC 230V, 50/60Hz  
c) AC 240V, 50/60Hz f) AC 240V, 50/60Hz

Bemessungsaufnahme : a) 28W d) 35W  
(Rated Power Input) b) 28W e) 35W  
c) 28W f) 35W

Schutzart : Build-in  
(Protection Degree)

**COPY**



15

ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.  
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.  
This certificate is based on our Testing and Certification Regulation. The product  
fulfills above mentioned requirements, the production is subject to surveillance.

Zertifizierungsstelle

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

*F. Nispel*  
Dipl.-Ing. F. Nispel

**Zertifikat****Certificate**

Zertifikat Nr. *Certificate No.*  
CC 50035201

Blatt *Page*  
0001

Ihr Zeichen *Client Reference*  
E.Y.

Unser Zeichen *Our Reference*  
01-BMI- 14004488 002

Ausstellungsdatum  
09.01.2004

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

**Genehmigungsinhaber *License Holder***

Grand Alliance International Ltd.  
Room 905-907  
Paul Y Centre  
51 Hung To Road  
Kwun Tong, Kowloon  
Hong Kong

**Fertigungsstätte *Manufacturing Plant***

Winbest Electronics  
and Plastic Factory  
No. 8 Chang Tang Industrial Zone  
Yan Tian, Feng Gang  
Dongguan, Guangdong  
P.R. China

**Prüfzeichen *Test Mark*****Geprüft nach *Tested acc. to***

EN 55015:2000+A1+A2  
EN 61000-3-2:2000  
EN 61000-3-3:1995+A1  
EN 61547:1995+A1

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

Lizenzentgelte - Einheit  
*License Fee - Unit*

Elektronisches Vorschaltgerät (SAVE IT EASY INLINE-T5)

Bezeichnung : a) INL-220-013-T5A d) INL-220-014-T5A 15  
(Type Designation) b) INL-230-013-T5A e) INL-230-014-T5A  
c) INL-240-013-T5A f) INL-240-014-T5A

Bemessungsspannung : a) AC 220V, 50/60Hz d) AC 220V, 50/60Hz  
(Rated Voltage) b) AC 230V, 50/60Hz e) AC 230V, 50/60Hz  
c) AC 240V, 50/60Hz f) AC 240V, 50/60Hz

Bemessungsaufnahme : a) 13W d) 14W  
(Rated Power Input) b) 13W e) 14W  
c) 13W f) 14W

Schutzart : Build-in  
(Protection Degree)

**COPY**



15

ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.  
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.  
This certificate is based on our Testing and Certification Regulation. The product  
fulfills above mentioned requirements, the production is subject to surveillance.

Zertifizierungsstelle

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

*F. Nispel*  
Dipl.-Ing. F. Nispel

## **Performance**

**IEC60929**

***Performance Requirements for A.C. – Supplied Electronic Ballasts for  
Tubular Fluorescent Lamps***

**Tested by Hong Kong Standards & Testing Centre**

**Complied Models : INL-220-013-T5A  
INL-220-014-T5A  
INL-220-028-T5A  
INL-220-035-T5A  
INL-230-013-T5A  
INL-230-014-T5A  
INL-230-028-T5A  
INL-230-035-T5A  
INL-240-013-T5A  
INL-240-014-T5A  
INL-240-028-T5A  
INL-240-035-T5A**



**HONG KONG STANDARDS AND TESTING CENTRE**  
Recognized Certification Bodies [RCB] of Electrical and Mechanical Services Department [EMSD]

## CERTIFICATE OF COMPLIANCE

**Certificate Number:** EPSR289CSC  
**Date of Issue:** 2004-03-10

We, the  
Grand Alliance International Limited  
Room 905, Paul Y. Centre,  
51 Hung To Road, Kwun Tong,  
Kowloon, Hong Kong

certify the product  
**Description:** Electronic Ballasts  
**Brand Name:** SAVE IT EASY  
**Model:** INL-220-013-T5A, INL-230-013-T5A, INL-240-013-T5A

complies with the requirements of the  
**Electrical Products (Safety) Regulation: 1997 under Chapter 406 of the Electricity Ordinance (Chapter 406)**

**Applicable Standard(s) with amendments:**  
IEC60929: 1990

**COPY**

**General Remarks:**

The test results apply to the particular sample tested and to the specific tests performed.  
This certificate applies specifically to sample investigated in our test report HE103582 and not to the bulk.  
Attention is drawn to the Conditions printed on the front page of our test report.

**Manufacturer/Importer**

**Test Laboratory**

\_\_\_\_\_  
Authorized signature and company seal

\_\_\_\_\_  
Authorized signature and company seal

\_\_\_\_\_  
Name/Title of authorized signature

PP Patrick Wong  
\_\_\_\_\_  
Name/Title of authorized signature





**HONG KONG STANDARDS AND TESTING CENTRE**  
Recognized Certification Bodies [RCB] of Electrical and Mechanical Services Department [EMSD]

## CERTIFICATE OF COMPLIANCE

**Certificate Number:** EPSR290CSC  
**Date of Issue:** 2004-03-10

We, the  
Grand Alliance International Limited  
Room 905, Paul Y. Centre,  
51 Hung To Road, Kwun Tong,  
Kowloon, Hong Kong

certify the product  
**Description:** Electronic Ballasts  
**Brand Name:** SAVE IT EASY  
**Model:** INL-220-014-T5A, INL-230-014-T5A, INL-240-014-T5A

complies with the requirements of the  
**Electrical Products (Safety) Regulation: 1997 under Chapter 406 of the Electricity Ordinance (Chapter 406)**

**Applicable Standard(s) with amendments:**  
IEC60929: 1990

**General Remarks:**

The test results apply to the particular sample tested and to the specific tests performed.  
This certificate applies specifically to sample investigated in our test report HE103583 and not to the bulk.  
Attention is drawn to the Conditions printed on the front page of our test report.


**COPY**

**Manufacturer/Importer**

\_\_\_\_\_  
Authorized signature and company seal

\_\_\_\_\_  
Name/Title of authorized signature

**Test Laboratory**

  
\_\_\_\_\_  
Authorized signature and company seal

PP Patrick Wong  
\_\_\_\_\_  
Name/Title of authorized signature



**HONG KONG STANDARDS AND TESTING CENTRE**  
Recognized Certification Bodies [RCB] of Electrical and Mechanical Services Department [EMSD]  
**CERTIFICATE OF COMPLIANCE**

**Certificate Number:** EPSR283CSC  
**Date of Issue:** 2004-01-13

We, the  
Grand Alliance International Limited  
Room 905, Paul Y. Centre,  
51 Hung To Road,  
Kwun Tong, Kowloon,  
Hong Kong

certify the product  
Description: Electronic Ballasts  
Brand Name: Save It Easy  
Model: INL-220-028-T5A / INL-230-028-T5A / INL-240-028-T5A

complies with the requirements of the  
**Electrical Products (Safety) Regulation: 1997 under Chapter 406 of the Electricity Ordinance (Chapter 406)**

**Applicable Standard(s) with amendments:**  
IEC60929: 1990

**COPY**

**General Remarks:**

The test results apply to the particular sample tested and to the specific tests performed.  
This certificate applies specifically to sample investigated in our test report HE103599 and not to the bulk.  
Attention is drawn to the Conditions printed on the front page of our test report.

**Manufacturer/Importer**

**Test Laboratory**

\_\_\_\_\_  
Authorized signature and company seal

PP \_\_\_\_\_  
Authorized signature and company seal

\_\_\_\_\_  
Name/Title of authorized signature

Patrick Wong \_\_\_\_\_  
Name/Title of authorized signature





## HONG KONG STANDARDS AND TESTING CENTRE

Recognized Certification Bodies [RCB] of Electrical and Mechanical Services Department [EMSD]

# CERTIFICATE OF COMPLIANCE

**Certificate Number:** EPSR284CSC  
**Date of Issue:** 2004-01-13

We, the  
Grand Alliance International Limited  
Room 905, Paul Y. Centre,  
51 Hung To Road,  
Kwun Tong, Kowloon,  
Hong Kong

certify the product

**Description:** Electronic Ballasts  
**Brand Name:** Save It Easy  
**Model:** INL-220-035-T5A / INL-230-035-T5A / INL-240-035-T5A

complies with the requirements of the  
**Electrical Products (Safety) Regulation: 1997 under Chapter 406 of the Electricity Ordinance (Chapter 406)**

**Applicable Standard(s) with amendments:**  
IEC60929: 1990

**COPY**

**General Remarks:**

The test results apply to the particular sample tested and to the specific tests performed.  
This certificate applies specifically to sample investigated in our test report HE103600 and not to the bulk.  
Attention is drawn to the Conditions printed on the front page of our test report.

**Manufacturer/Importer**

**Test Laboratory**

\_\_\_\_\_  
Authorized signature and company seal

PP \_\_\_\_\_  
Authorized signature and company seal

\_\_\_\_\_  
Name/Title of authorized signature

Patrick Wong

\_\_\_\_\_  
Name/Title of authorized signature

## **Manufacturing Facilities Inspection**

- ***Organization***
- ***Incoming Quality Control***
- ***Warehouse***
- ***In-process Quality Control***
- ***100% Safety Outgoing Test***
- ***Final Product Sampling Audit***
- ***Calibration***
- ***Production Line***

Certified by TUV Rheinland Hong Kong Ltd

TÜV Rheinland Product Safety GmbH  
(TRPS)  
Am Grauen Stein  
Konstantin-Wille-Str. 1  
51105 Köln  
Fed. Rep. of Germany



# Certificate

No. 086-05-1897-0402

Regarding the inspection of  
manufacturing and operating facilities according to the General Agreement  
with the Certification Body of TRPS

the Certificate Holder

**Grand Alliance International Ltd.**  
**905-907 Paul Y. Centre, 51 Hung To Road**  
**Kwun Tong**  
**Hong Kong**

has successfully demonstrated that an internal quality control and  
necessary tests of those products approved by TÜV Rheinland are being  
carried out and produced at the manufacturing facility

**Winbest Electronics and Plastics Factory**  
**No. 8 Chang Tang Industrial Zone**  
**Yan Tian, Feng Gang, Dongguan, Guangdong**  
**P. R. China**

An inspection of the manufacturer's quality control and test  
procedures, including internal records was conducted by a  
TÜV Rheinland appointed inspector on

04 November, 2003

This certificate is valid until the next scheduled inspection  
or up to 12 months, at the discretion of TÜV Rheinland.

Report-No. H 14004772

**COPY**



Certification Body

*F. Nispel*  
Dipl.-Ing. F. Nispel

**Total Harmonic Distortion**

**Tested by TUV Rheinland Hong Kong Ltd**

**Tested Models :**

<b>INL-220-013-T5A</b>	<b>10.4%</b>
<b>INL-220-014-T5A</b>	<b>10.0%</b>
<b>INL-220-028-T5A</b>	<b>7.8%</b>
<b>INL-220-035-T5A</b>	<b>10.6%</b>

# EMC Test Protocol



Reference: <b>BMI-42010298</b>	Page: 3 of 6
Report: <b>14005469 001</b>	Number of attached sheets:

<b>Emission</b>	<b>Disturbance in supply system</b> Harmonics on AC Mains	<input checked="" type="checkbox"/> EN 61 000-3-2	
Port:	AC Mains	Result: PASS	
Voltage:	AC 220V		
Frequency:	50Hz		
Ambient	°C	% RH	hPa
Artificial hand:	Not Applied		
<b>Operation Mode: ON (INL-220-013-T5A)</b>			
Harmonics Tables see page: attached test results			
Note:			
<b>Measured General Data</b>			
<b>Voltage</b>	<b>Input Current</b>	<b>Input Power</b>	<b>Power Factor</b>
220.1 V	0.0796 A	17.6616 W	0.9635
<b>Total Harmonics Distortion</b>			10.4%

Date: 17.02.2004  
 Inspector: Terrence Cheung

Signature: \_\_\_\_\_



# EMC Test Protocol



Reference: <b>BMI-42010298</b>	Page: 4 of 6
Report: <b>14005469 001</b>	Number of attached sheets:

<b>Emission</b>	<b>Disturbance in supply system</b> Harmonics on AC Mains	<input checked="" type="checkbox"/> EN 61 000-3-2	
Port:	AC Mains	Result: PASS	
Voltage:	AC 220V		
Frequency:	50Hz		
Ambient	°C	% RH	hPa
Artificial hand:	Not Applied		
<b>Operation Mode: ON (INL-220-014-T5A)</b>			
Harmonics Tables see page: attached test results			
Note:			
<b>Measured General Data</b>			
<b>Voltage</b>	<b>Input Current</b>	<b>Input Power</b>	<b>Power Factor</b>
220.1 V	0.0796 A	17.5708 W	0.9699
<b>Total Harmonics Distortion</b>			10.0%

Date: 17.02.2004  
 Inspector: Terrence Cheung

Signature: \_\_\_\_\_



*Terrence*

# EMC Test Protocol



Reference: <b>BMI-42010298</b>	Page: 5 of 6
Report: <b>14005469 001</b>	Number of attached sheets:

<b>Emission</b>	<b>Disturbance in supply system</b> Harmonics on AC Mains	<input checked="" type="checkbox"/> EN 61 000-3-2	
Port:	AC Mains	Result: PASS	
Voltage:	AC 220V		
Frequency:	50Hz		
Ambient	°C	% RH	hPa
Artificial hand:	Not Applied		
<b>Operation Mode: ON (INL-220-028-T5A)</b>			
Harmonics Tables see page: attached test results			
Note:			
<b>Measured General Data</b>			
<b>Voltage</b>	<b>Input Current</b>	<b>Input Power</b>	<b>Power Factor</b>
220.2 V	0.1375 A	31.6260 W	0.9985
<b>Total Harmonics Distortion</b>			7.8%

Date: 17.02.2004  
 Inspector: Terrence Cheung

Signature: \_\_\_\_\_



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# EMC Test Protocol



Reference: <b>BMI-42010298</b>	Page: 6 of 6
Report: <b>14005469 001</b>	Number of attached sheets:

<b>Emission</b>	<b>Disturbance in supply system</b> Harmonics on AC Mains	<input checked="" type="checkbox"/> EN 61 000-3-2	
Port:	AC Mains	Result: PASS	
Voltage:	AC 220V		
Frequency:	50Hz		
Ambient	°C	% RH	hPa
Artificial hand:	Not Applied		
<b>Operation Mode: ON (INL-220-035-T5A)</b>			
Harmonics Tables see page: attached test results			
Note:			
<b>Measured General Data</b>			
<b>Voltage</b>	<b>Input Current</b>	<b>Input Power</b>	<b>Power Factor</b>
220.2 V	0.1741 A	40.1299 W	0.9893
<b>Total Harmonics Distortion</b>			10.6%

Date: 17.02.2004  
 Inspector: Terrence Cheung

Signature: \_\_\_\_\_

