

Test report

On Behalf of

MEAN WELL ENTERPRISES CO., LTD.

For

LED Driver

Model No.: ELG-200-36A

Prepared for : MEAN WELL ENTERPRISES CO., LTD.

NO.28, Wuquan 3rd RD., Wugu Dist., New Taipei City 24891,Taiwan Prepared By :TMC Testing Services(Shenzhen) Co., Ltd.

> 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road, Shiyan Street, Baoan District, Shenzhen, China

Tel: +86-755- 86642861

Web: www.tmc-lab.com

E-mail: Cert@tmc-lab. Com

Date of Test: September 23, 2018 to September 30, 2018 Date of Report: September 30, 2018

Report Number: TMC180923111-S

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services

 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,

 Shuitian, Shiyan Street, Baoan District, Shenzhen, China

 (86)755 86642861
 Mail:cert@tmc-lab.com

 Page 1 of 29



TEST REPORT IEC 61347-2-13 Part 2: Particular requirements: Section Thirteen - d.c. or a.c. supplied electronic controlgear for LED modules Report reference No. TMC180923111-S Tested by (name and signature): Bart Deng Approved by (name and signature) Lemon Rao Date of issue..... September 30, 2018 Contents 29 Pages MEAN WELL ENTERPRISES CO., LTD. Applicant's name Address NO.28, Wuquan 3rd RD., Wugu Dist., New Taipei City 24891,Taiwan Test specification: Standard IEC 61347-2-13:2006 used in conjunction with IEC 61347-1 (Second Edition): 2007+A1:2010 and AS/NZS 61347.1: 2002 Test procedure: **CB** Scheme N/A Non-standard test method.....: Test Report Form No..... IEC61347 2 13C Test Report Form(s) Originator: Intertek Semko AB Master TRF.....: 2011-06 Copyright © 2011 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved. This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed. This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services

 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,

 Shuitian, Shiyan Street, Baoan District, Shenzhen, China

 (86)755 86642861
 Mail:cert@tmc-lab.com

 Waw.tmc-lab.com

 Page 2 of 29

Test item of Trade Mark Manufactur Model/Type Ratings	descriptior	۱	: LED : MEAI : MEAI : ELG-	Driver	TERPRISES CO.	THIC	THAC	X
Trade Mark Manufactur Model/Type Ratings	< rer e reference		: MEAI		FERPRISES CO.	LTD.	LUN	<'
Manufactur Model/Type Ratings	rer e reference	1 MC	: MEAI	N WELL ENT	FERPRISES CO.	LTD.		
Model/Type Ratings	e reference	·····	: ELG-	200 261		- an	NA	
Ratings				200-30A	71	1.	1.	~
Testing pr			: 100-2	240V ~ ,50/60	0Hz , 180W			
resting pr		nd tooting I	- Chiani	× 611	- Kan	- KEN	- Len	~
	ting Labor	atory:		TMC Testing	a Services(Sher	nzhen) Co Li	td.	
Testing loc	ation/ addre	əss	KML .	1st Floor, Blo Park, No. 2, Shenzhen, C	ock A1, Zone A, X Shihuan Road, S China	Xinshidai Gon Shiyan Street,	grong Industria Baoan District	al <'
SUC X	(MAC	1 MAC	THAC	1 MAC	THAT	THAC	THAC	<
anc -	Mr.	JN2.	JAN .	Ala.	- anc	. and	MC	
Summary	of testing:	1	11	1	1	1	1	1
anc -	WNC	THAC	THAC	1st Ind Ba	Hoor, Block A1, lustrial Park, No. oan District, She	, Zone A, Xins 2, Shihuan Ro nzhen, China	hidai Gongron oad, Shiyan St	g reet,
(MAC T	MAC -	(MAC	TRAC	THAC	THAC	THAC	THAC	
ac a	INC	THAC	THAC	THIC	THAC	TIME	TIME	<
. C	· .C	C						
101 1	(P)	LEN	LEN	LEN	Lear	LEN	1 lan	1
				6	, C	Ja.	JAC	
inc -	INC	THAC	THAC	THAC	1 MM	< lav	Lu.	~
inc -	I MAC	THAC	THAC	THAC	TIME	THAT	THAC	~
anc n anc n	INIC INIC INIC	TIMC TIMC	THAC	THAC	TIME	THAT	THAC	ベイン

1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,
Shuitian, Shiyan Street, Baoan District, Shenzhen, China
(86)755 86642861
Mail:cert@tmc-lab.com
Page 3 of 29



1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,
Shuitian, Shiyan Street, Baoan District, Shenzhen, China
(86)755 86642861
Mail:cert@tmc-lab.com
Mail:cert@tmc-lab.comwww.tmc-lab.comPage 4 of 29



Test item particulars	LED Driver	1.	1.	1
Classification of installation and use	Class I, IP65,			
Supply Connection:	Terminal block	× PM	1 M	
Possible test case verdicts:	2			
- test case does not apply to the test object	N/A	SIL	Sm	
- test object does meet the requirement:	P (Pass)	Lb.	14.	<
- test object does not meet the requirement:	F (Fail)		1	
Testing	10 MIC	- W	1 M	1
Date of receipt of test item:	September 23, 2018	1.	1.	~
Date (s) of performance of tests	September 23, 2018	to Septembe	r 30, 2018	



TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,
Shuitian, Shiyan Street, Baoan District, Shenzhen, China
(86)755 86642861
Mail:cert@tmc-lab.com
Mail:cert@tmc-lab.comwww.tmc-lab.comPage 5 of 29



1	1	1	1	1.1	1	1	1	
Genera	al remarks:	~ MN	~ MA	1 May	~ WN	~ MA	TANC	~
The tes This re laborat	st results pres port shall not orv.	sented in this be reproduce	report relate o ed, except in f	only to the obj full, without the	ect tested. e written appro	val of the Issu	ing testing	
"(See E "(See a Throuc	Enclosure #)" appended tab	refers to add le)" refers to a ort a comma	litional inform a table appen (point) is use	nation append ided to the rep ad as the decir	ed to the repo port. mal separator	rt. KIN	LEN	~
Clause	numbers bet	tween bracket	ts refer to cla	uses in IEC 6	1347-1	MC	MA	
Gener a Based	al product in on the above	formation:	the samples I	have been tes	ted and found	compliant with	the requireme	ents of
the safe	ety standard	listed below:	- MC	M	-Me	- MC	M	
IEC 61	347-2-13: 20	06 + AS/NZS	61347.1:20	02.	11	11	11	~
List of	attachments(including a to	otal number o	f nages in ea	ch attachment	- anc	SAL	
Attachr	ment 1: Appli	cable clause (of IEC 61347.	-2-13· 2006 +	AS/NZS 61347	,. 7 1· 2002	LIN	<
Attachr	nent 2: Produ	uct pictures		2 10. 2000 1		IN 2002	SAL	
	LIP	LIP	Lin	1 m	110	110	4m	1
2n	SAC	SNE	Ma	SAC	SAM	SAM	SNO	
	LIL	Lin	110	1 p	Lin	210	LIN	<
Jn2	Silve	SAC	Sno	Sne	Jan	- Aria	JAN	
	110	110	Lin	10	1 m	110	1 m	- T
Ana.	2Mar	MC	- MA	MA	MC	MC	MA	
0.	11.	11	Z.	11	11.	11.	Z.	
Sno	MC	MC	MC	MC	MC	MA	MC	
	11	11.	1.	1.	11.	1.	1.	1
SAR	MAC	MC	MC	NA	MA	- NC	MC	
	1.	7.	1.	1.	1.	1.	1.	~
NC	MC	MC	MC	NC	NAC	NC	MC	
	1.	7.	1.	1.	1.	1.	1.	7
NC	MC	MC	- anc	NAC	- MC	MC	MC	
	1.	1.	1.	1.		1.	1.	7
SAR	MC	MC	MC	NAC	- MC	MA	- MC	
		1.	1.	7.	7.	1.	1	1
			. 6.	. (. (.			

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services

1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road, Shuitian, Shiyan Street, Baoan District, Shenzhen, China (86)755 86642861 Mail:cert@tmc-lab.com www.tmc-lab.com Page 6 of 29



TMC Testing	Services(Shenzhen) Co., Ltd.	Report No.: TMC18092311		
IEC 61347-2-13				
Clause	Requirement + Test	.C.	Result - Remark	Verdict
		M	an an an	

	4	GENERAL REQUIREMENTS		-
1	10 T W	Compliance of independent controlgear enclosure with EN 60 598-1	- IN IN	N/A
4	14 11	Independent SELV controlgear comply with Annex I	(see Annex I)	N/A

6 (6)	CLASSIFICATION	J. J.	
~ <	Independent convertor:	Yes 🛛 🛛 No 🗌	6 -
2	Built-in convertor:	Yes 🗌 No 🖂	
10	Integral convertor:	Yes 🗌 No 🖂	1 ⁰ -
1	SELV-equivalent or isolating convertor:	Yes 🛛 No 🗌	_
C	Auto-wound convertor:	Yes 🗌 No 🖂	. C -
1	Independent SELV controlgear:	Yes 🗌 🛛 No 🖂	(a) -

7 1	MARKING	NC and and	
7.1 (7.1)	Mandatory markings:		Р
C a	- mark of origin	Refer to marking label	Р
1. 261	- model number, type reference::	ELG-200-36A	P
	- symbol for independent convertor, if applicable	Refer to marking label	Р
MC M	- correlation between interchangeable parts and convertor marked	THIC THIC	N/A
	- rated supply voltage (V):	100-240V~	Р
10 .01	- earthing symbol	ic in in	N/A
1.	- wiring diagram	Refer to marking label	Р
6	- value of t _c	Refer to marking label	Р
1 1/10	- symbol for declared temperature	Refer to marking label	P
	Constant voltage type:	Yes 🛛 No 🗌	
No. 9	- rated supply voltage (V):	C ALC ALC	Р
11	Constant current type:	Yes 🗌 No 🛛	_
C	- rated output current (A):	C C C	N/A
1 19	- rated maximum output voltage (V):	1 KIN KIN	N/A
	- indication if for LED modules only		Р
7.2 (7.1)	- information to be provided, if applicable:	On On O	Р

1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,
Shuitian, Shiyan Street, Baoan District, Shenzhen, China
(86)755 86642861
Mail:cert@tmc-lab.com
Mail:cert@tmc-lab.comwww.tmc-lab.comPage 7 of 29



Clause	Requirement + Test	Result - Remark	Verdict
1	W WI CAL CAL	1 XAL XAL	1
(- declaration on protection against accidental contact		N/A
NV XS	- cross-section of conductors (mm ²):	Refer to user manual	Р
	- number, type and wattage of lamp(s)	LED module only	N/A
6	- declaration of mains connected windings	Refer to marking label	Р
. <r< td=""><td>- declaration for SELV-equivalent convertor</td><td>. Ila. Ila.</td><td>N/A</td></r<>	- declaration for SELV-equivalent convertor	. Ila. Ila.	N/A
- (7.2)	Marking durable and legible	2 2 2	Р
10 19	Rubbing 15 s water, 15 s petroleum; marking legible	No legible and clear after the test.	P

8 (10)	PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS					
- (10.1)	Controlgear protected against accidental contact with live parts		Р			
- (A2)	The current flowing between the part concerned and earth is measured and does not exceed 0,7 mA (peak) or 2 mA d.c	THAC THAC	N/A			
- (A2)	For frequencies above 1 kHz, the current does not exceed 0,7 mA (peak) multiplied by the value of the frequency in kilohertz or 70 mA (peak):	TIME TIME	N/A			
- (A3)	The voltage between the part concerned and any accessible part is measured and does not exceed 34 V (peak):	IC TIMC TIMC	N/A			
- (10.1)	Lacquer or enamel not used for protection or insulation	ANC ANC	N/A			
(Adequate mechanical strength on parts providing protection	0 0 0	N/A			
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V:	Voltage=0V after 1min	P			
8.1	SELV-equivalent controlgear accessible parts are insulated from live parts by double or reinforced insulation according 8.6 and 13.1 in IEC 60065	IC TIME TIME	P			
8.2	Exposed terminals of SELV or SELV-equivalent controlgear if: - the rated or maximum rated output voltages ≤ 25 V r.m.s. - the no-load output voltage ≤ 30 V r.m.s. or 33 √2 V peak	All terminals cove by enclosure and cannot access.	N/A			
. Lev	Insulated terminals if convertor with rated output voltage > 25 V	Lev. Lev.	N/A			

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services



TMC Testing Services(Shenzhen) Co., Ltd. Report No.: TMC180923111-S IEC 61347-2-13 Clause Requirement + Test **Result - Remark** Verdict One capacitor Y1 or two capacitors Y2 complying Ρ with IEC 60384-14 of the same values used in series between SELV or SELV-equivalent output and primary circuits Ρ Other components bridging the separating transformer complying with IEC 60065, clause 14 9 (8) TERMINALS Separately approved, component list (see Annex 1) Ρ N/A Screw terminals: compliance with Section 14 of (see Annex 2) IEC 60598-1

(see Annex 3)

N/A

Screwless terminals: compliance with Section 15

of IEC 60598-1

10 (9)	PROVISION FOR EARTHING	1º	NY	NY NY	P
	Terminal complying with clause 8 in Part 1				Р
NC AN	Locked against loosening and not possible to loosen by hand	C	~ MAC	- MC	Р
~	Not possible to loosen clamping means unintentionally on screwless terminals	6			N/A
N A	Earthing via means of fixing	Y	X KAN	X MA	P
	Earthing terminal only used for the earthing of the control gear				N/A
W. La	All parts of material minimizing the danger of electrolytic corrosion		1 MAN	1 HAVE	P
C	Made of brass or equivalent material	С.	. C.	. (.	Р
1 1	Contact surface bare metal	1	1 kg/	1 BIL	P
	Earth contact via the track on the printed board				Р
NC TH	Test with a current of 25 A between earthing terminal and each of the accessible metal parts; measured resistance (Ω): < 0,5 Ω	0	THAC	THAC	P

11 (11)	MOISTURE RESISTANCE AND INSULATION		
1C 714	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance with d.c. 500 V (M Ω):		
	For basic insulation $\ge 2 \text{ M}\Omega$: >1000 M Ω	P	
2	For double or reinforced insulation $\geq 4 \text{ M}\Omega$	N/A	

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services

 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,

 Shuitian, Shiyan Street, Baoan District, Shenzhen, China

 (86)755 86642861
 Mail:cert@tmc-lab.com

 Page 9 of 29



	IEC 61347-2-	-13	
Clause	Requirement + Test	Result - Remark	Verdict
an C	Adequate insulation between input and output terminals not bounded together in SELV-equivalent controlgear	put	

12 (12)	ELECTRIC STRENGTH	6	6	2	Р
No x M	Immediately after clause 11 electric strength test for	r 1 min	AN C	~ M	N/A
	Working voltage \leq 42 V, test voltage 500 V		P		N/A
5	Working voltage > 42 V \leq 1000 V, test voltage (V):	6	SAL	SAL	Р
. <	Basic insulation, 2U + 1000 V	~	La.	10.	N/A
1	Supplementary insulation, 2U + 1750 V	1	1	2	N/A
	Double or reinforced insulation, 4U + 2750 V	3710V	AN C	~ M	P
	No flashover or breakdown				Р
NC TR	Windings in separating transformers in SELV- equivalent convertors according to 14.3.2 of IEC 60065	(C _ <	MAC	THAC	N/A

14 (14)	FAULT CONDITIONS (Carried out on three sample	es)	P
	When operated under fault conditions the controlge	ear:	Р
C all	- does not emit flames or molten material	One One O	Р
. 11.	- does not produce flammable gases	de de	Р
anc an	- protection against accidental contact not impaired	anc anc	P
n An	Thermally protected ballasts does not exceed the marked temperature value		N/A
NC TW	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	THIC THIC	N/A
- (14.1)	Short-circuit of creepage distances and clearances if less than specified in clause 18 (except between live parts and accessible metal parts)	(see appended table)	P
1 1 m	Creepage distances on printed boards less than specified in clause 18 provided with coating according to IEC 60664-3	Lun Lun	N/A
- (14.2)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.3)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A



Clause	Requirement + Test	Result - Remark	Verdict
1	a, the the the the	an the the	~
- (14.4)	Short-circuit across electrolytic capacitors	(see appended table)	Р
- (14.5)	After the tests has been carried out on three samp	bles:	Р
· <	The insulation resistance $\ge 1 \ M\Omega$	>1000 MΩ	P
/	No flammable gases	1 1 1	Р
0	No accessible parts have become live	and and and	Р
~	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		Р
- (14.6)	Relevant fault condition tests with high-power supply	AL THAT THAT	—
С.	Temperature declared thermally protected lamp controlgear fulfil requirements in Annex C	C C C	Р

15	TRANSFORMER HEATING	1 1 1	_
NO TH	Windings of separating transformer in a SELV- equivalent controlgear fulfil the requirements according to 7.1 and 11.2 of IEC 60065	LANC LING	P
15.1	Temperatures do not exceed the changed values of the values in column 2 of Table 3 of IEC 60065, in respect to relevant ambient temperature at t_{c} , under normal operation	C TIMC TIMC	P
15.2	Temperatures do not exceed the changed values of the values in column 3 of Table 3 of IEC 60065, in respect to relevant ambient temperature at t_{c} , under abnormal conditions of Cl. 16 and fault conditions of Cl. 14	THAC THAC	P
	Ambient temperature at t _c :	85 degree C	

12	× Ca.	4 61, 4 61, 4 61, 4 61,	× la,	201	- < 1
16	÷	ABNORMAL CONDITIONS			Ρ
NC	- IN	Safety not impaired when the controlgear is operated at any voltage between 90% and 110% of rated voltage	THAC	THAC	P
16.1		Control gear which are of the constant voltage output	type:	1	Р
N	× AN	a) No LED module inserted	1 May	~ M	P
~		b) Double LED modules or equivalent load connected to the output terminals			Р
	1 kg	c) Output terminal short-circuited (20 cm and 200 cm or declared length)	1 MAC	1 March	P

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,
Shuitian, Shiyan Street, Baoan District, Shenzhen, China
(86)755 86642861
Mail:cert@tmc-lab.com
Mail:cert@tmc-lab.comwww.tmc-lab.comPage 11 of 29



Clause	Requirement + Test	Result - Remark	Verdic
2 25	1× 19× 19× 19× 1	9 × 60 ×	× 12
C at	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced	NC MC	P
16.2	Control gear which are of the constant current out	put type:	N/A
6	a) No LED module connected	0.0	N/A
10 TH	b) Double the LED modules or equivalent load connected in series to the output terminals	NO TIMO	N/A
C at	c) Output terminal short-circuited (20 cm and 200 cm or declared length)	ac nc	N/A
. 10	Maximum output voltage not exceeded	\sim $<_{E}$ $<$	N/A
C	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced	NC INC	N/A

17 (15)	CONSTRUCTION	ne one on	О Р
- (15.1)	Wood, cotton, silk, paper and similar fibrous material not used as insulation	Le. Le.	Р
- (15.2)	Printed boards used as internal connections complies with clause 14	IC THAC THAT	Р
C .	Socket-outlet in the output circuit does not accept plugs complying with IEC 60083 and IEC 60906	Terminal block cover by enclosure	N/A
1	Not possible to engage plugs accepted by socket- outlet in the output circuit with socket-outlets complying with IEC 60083 and IEC 60906	Lev. Lev.	N/A

18 (16)	CREEPAGE DISTANCES AND CLEARANCES		Р
IC AN	Creepage distances and clearances according to Table 3 and 4, as appropriate	(see appended table)	Р
	Printed boards see clause 14		Р
6	Insulating lining of metallic enclosures	An Jan Ja	N/A

19 (17)	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS	
NO YN	Screws, current-carrying parts and connections in compliance with IEC 60598-1 (clause numbers between parentheses refer to IEC 60598-1)	P
(4.11)	Electrical connections	Р
(4.11.1)	Contact pressure VDE approved terminal block	Р
(4.11.2)	Screws:	N/A
C .	- self-tapping screws	N/A

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services

1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,
Shuitian, Shiyan Street, Baoan District, Shenzhen, China
(86)755 86642861
Mail:cert@tmc-lab.com
Page 12 of 29Wail:cert@tmc-lab.com
www.tmc-lab.com



Clause	Requirement + Test Result - Remark	.0	Verdict
		× Mr	~
	- thread-cutting screws		N/A
C .	- at least two self-tapping screws	Jn.	N/A
(4.11.3)	Screw locking:	Lb.	N/A
1	- spring washer		N/A
0	- rivets	- No	N/A
(4.11.4)	Material of current-carrying parts	1.	N/A
(4.11.5)	No contact to wood	, Ć,	N/A
(4.12)	Mechanical connections and glands	× 191	N/A
(4.12.1)	Mechanical stress		N/A
C at	Screws not made of soft metal	-Are	N/A
~	Screws of insulating material	11	N/A
1	Torque test: part; torque (Nm):	6	N/A
1	Torque test: part; torque (Nm):	× Mr	N/A
	Torque test: part; torque (Nm):		N/A
(4.12.2)	Screw diameter < 3 mm screwed into metal	Snie	N/A
(4.12.4)	Locked connections	Le	N/A
(4.12.5)	Screwed glands: force (N)		N/A

20 (18)	RESISTANCE TO HEAT, FIRE AND TRACKING	RESISTANCE TO HEAT, FIRE AND TRACKING		
- (18.1)	Parts of insulating material retaining live parts in position, ball-pressure test:		Р	
w. Lu	- part; test temperature (°C):	Terminal Block 125°C	P	
NC TH	- part; test temperature (°C):	PCB, Bobbin of transformer, Bobbin of inductor: 125°C	P	
- (18.2)	Printed boards in accordance with 8.7 of IEC 61189-2 and relevant parts of IEC 61249-2	C nC nC	N/A	
- (18.3)	External parts of insulating material preventing electric shock glow-wire test 650 °C	Metal enclosure 650°C	P	
- (18.4)	Parts of insulating material retaining live parts in po	osition, needle-flame test 10 s:	Р	
C I	- flame extinguished within 30 s	Terminal block, PCB, Bobbin of transformer, bobbin of inductor, plastic enclosure	P	
1. Le	- no flaming drops igniting tissue paper	. La. La.	P	
- (18.5)	Tracking test according section 13 of IEC 60598-1 if required	IC MC MC	N/A	

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services



Report No.: TMC180923111-S TMC Testing Services(Shenzhen) Co., Ltd. IEC 61347-2-13 Clause Requirement + Test **Result - Remark** Verdict 21 (19) **RESISTANCE TO CORROSION** N/A Applicable parts comply with 4.18.1 of N/A IEC 60598-1 N/A Adequate varnish on the outer surface (20) **NO-LOAD OUTPUT VOLTAGE** Ρ Ρ No load output voltage not differ more than 10 % from rated voltage

14	TABLE: tests of fault conditions	AN L	- and	NAV N	P
Part	Simulated fault				Hazard
Output wires	Short circuit	J.	Ja.	30	NO
Transformer output	Short circuit	Lb.	1 los	1 lai	NO
C13	Short circuit	J.	Sa	Jn.	NO
Output pin of optical isolator-U2	Short circuit	Lu.	1m.	Lla.	NO
Input pin of optical isolator-U2	Short circuit	THAC	THAT	TIME	NO
IC1 pin1-7	Short circuit	- WIC	- MC	- NO	NO
IC1 pin 1-6	Short circuit	1.	1.	1.	NO
IC1 pin 6-7	Short circuit	.0	.0		NO
U3 pin1-2	Short circuit	Lan	Llau	161	NO
U3 pin1-3	Short circuit				NO
U3 pin3-2	Short circuit	- MA	- and	- sil	NO
D1	Short circuit	11.	11.	10	NO

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services

 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,

 Shuitian, Shiyan Street, Baoan District, Shenzhen, China

 (86)755 86642861
 Mail:cert@tmc-lab.com

 Page 14 of 29



		IEC	01347-2	-13				
Clause	Requirement + Test	C		Re	sult - Ren	nark		Verdic
192	1 19 × 19	N X	61	× Gr	25	21	191	- K
18 (16)	TABLE: creepage dis	tances and	l clearan	ces				Р
	Minimum distances for	a.c. (50/60	Hz) sinus	soidal volta	ges			
RMS working	voltage (V) not exceeding	g	50	150	250	500	750	1000
1) minimum d different polar	istances between live par ity. Specify the value mea	rts of asured.	-nC	Onio	cl>3,0 Cr>3,0	n C	SIL	
2) minimum d accessible pa the ballast, ind covers or fixin Specify the va	istances between live par rts which are permanently cluding screws or devices ig the ballast to its suppor alue measured.	rts and y fixed to for fixing t.	MC	TIM	cl>3,0 Cr>3,0	nc.	THAC	~
- required creation PTI	epage distances (mm), ≥ 600	NC .	0,6	1,4	1,7	NC ³	40	5,5
- required creation PTI	epage distances (mm),		1,2	1,6	2,5	5	8	10
Insulation F H	< 000							
- required clea	arances (mm)	NC X	0,2	1,4	1,7	3	4	5,5
- required clea 3) minimum d supporting su the construction under 2 above unfavourable	arances (mm) listances between live par rface or a loose metal cov on does not ensure that th e are maintained under th circumstances	rts and a fla /er, if any, if ne values e most	0,2	<1,4	1,7	3	THAT THAT	5,5
- required clea 3) minimum d supporting su the construction under 2 above unfavourable - required clea	arances (mm) listances between live par rface or a loose metal cov on does not ensure that th e are maintained under th circumstances arances (mm)	ts and a fla ver, if any, if ne values e most	0,2	3,2	1,7	3	6	5,5
- required clea 3) minimum d supporting su the construction under 2 above unfavourable - required clea	arances (mm) listances between live par rface or a loose metal cov on does not ensure that th e are maintained under th circumstances arances (mm) Minimum distances for	ts and a fla ver, if any, if ne values e most non-sinusc	0,2 t 2 vidal pulse	1,4 3,2 e voltages	1,7	3	6	5,5 8 N/A
- required clea 3) minimum d supporting su the construction under 2 above unfavourable - required clea rated pulse vo	arances (mm) istances between live par rface or a loose metal cov on does not ensure that th e are maintained under th circumstances arances (mm) Minimum distances for oltage (peak kV)	rts and a fla ver, if any, if ne values e most non-sinusc 2,0	0,2 t 2 idal pulse 2,5	1,4 3,2 e voltages 3,0	1,7 3,6 4,0	3 4,8 5,0	4 6 6,0	5,5 8 N/A 8,0
- required clea 3) minimum d supporting su the construction under 2 above unfavourable - required clea rated pulse voor required minir clearances (m	arances (mm) istances between live par rface or a loose metal cov on does not ensure that th e are maintained under th circumstances arances (mm) Minimum distances for oltage (peak kV) mum distances, mm)	rts and a fla ver, if any, if ne values e most non-sinusc 2,0 1,0	0,2 t 2 vidal pulse 2,5 1,5	1,4 3,2 voltages 3,0 2	1,7 3,6 4,0 3	3 4,8 5,0 4	4 6 6,0 5,5	5,5 8 N/A 8,0 8
- required clea 3) minimum d supporting su the construction under 2 above unfavourable - required clea rated pulse vo required minir clearances (m Specify the va	arances (mm) istances between live par rface or a loose metal cov on does not ensure that the e are maintained under that circumstances arances (mm) Minimum distances for bltage (peak kV) mum distances, mm) alue measured	non-sinusc	0,2 t 2 bidal pulse 2,5 1,5	1,4 3,2 voltages 3,0 2	1,7 3,6 4,0 3	3 4,8 5,0 4	4 6 6,0 5,5	5,5 8 N/A 8,0 8
- required clear 3) minimum d supporting su the construction under 2 above unfavourable - required clear rated pulse vor required minir clearances (m Specify the var rated pulse vor	arances (mm) istances between live par rface or a loose metal cov on does not ensure that the e are maintained under the circumstances arances (mm) Minimum distances for bitage (peak kV) mum distances, mm) alue measured bitage (peak kV)	ts and a flat ver, if any, if ne values e most non-sinusc 2,0 1,0 10	0,2 t 2 bidal pulse 2,5 1,5	1,4 1,4 3,2 voltages 3,0 2 15	1,7 3,6 4,0 3 20	3 4,8 5,0 4 25	4 6 6,0 5,5 30	5,5 8 N/A 8,0 8
- required clear 3) minimum d supporting su the construction under 2 above unfavourable - required clear rated pulse vor required minir clearances (m Specify the var rated pulse vor required minir clearances (m	arances (mm) istances between live par rface or a loose metal cov on does not ensure that the e are maintained under the circumstances arances (mm) Minimum distances for bitage (peak kV) mum distances, mm) alue measured bitage (peak kV) mum distances, mm)	ts and a flat ver, if any, if ne values e most non-sinusc 2,0 1,0 10	0,2 t 2 bidal pulse 2,5 1,5 12	1,4 3,2 voltages 3,0 2 15	1,7 3,6 4,0 3 20	3 4,8 5,0 4 25	4 6 6,0 5,5 30	5,5 8 N/A 8,0 8 40
 required clear minimum disupporting suithe construction of the construction of t	arances (mm) istances between live par rface or a loose metal cov on does not ensure that th e are maintained under th circumstances arances (mm) Minimum distances for oltage (peak kV) mum distances, mm) alue measured oltage (peak kV) mum distances, mm) alue measured	rts and a fla ver, if any, if ne values e most non-sinusc 2,0 1,0 10	0,2 t 2 idal pulse 2,5 1,5	1,4 3,2 voltages 3,0 2 15	1,7 3,6 4,0 3 20	3 4,8 5,0 4 25	4 6 6,0 5,5 30 30	5,5 8 N/A 8,0 8 40
 required clear a) minimum disupporting suithe construction of the construction o	arances (mm) istances between live par rface or a loose metal cov on does not ensure that th e are maintained under th circumstances arances (mm) Minimum distances for oltage (peak kV) mum distances, mm) alue measured oltage (peak kV) mum distances, mm) alue measured oltage (peak kV)	rts and a fla ver, if any, if ne values e most non-sinusc 2,0 1,0 10 50	0,2 t 2 bidal pulse 2,5 1,5 12 60	1,4 1,4 3,2 voltages 3,0 2 15 80	1,7 3,6 4,0 3 20 100	3 4,8 5,0 4 25	4 6 6,0 5,5 30 -	5,5 8 N/A 8,0 8 40

1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,
Shuitian, Shiyan Street, Baoan District, Shenzhen, China
(86)755 86642861
Mail:cert@tmc-lab.com
Mail:cert@tmc-lab.comPage 15 of 29



Clause	Requirement + Test	Result - Re	mark	Verdic
1	an chi chi chi	ALX X	N 10	AN X
A	ANNEX A (NORMATIVE), TEST TO ESTABLISH PART IS A LIVE PART WHICH MAY CAUSE AN	I WHETHER A	A CONDUCTIV SHOCK	'E N/A
A.2	See clause 8 A.2 in this Test Report	AN X	W NB	N/A
A.3	See clause 8 A.3 in this Test Report			N/A
6	San San San San	Sn	JnC .	Ja
c 🔨	ANNEX C – PARTICULAR REQUIREMENTS FO CONTROLGEAR WITH MEANS OF PROTECTION	OR ELECTRO	NIC LAMP OVERHEATIN	N/A
C3	GENERAL REQUIREMENTS	Sne	Jnc.	N/A
C3.1	Thermal protection means integral with the convertor, protected against mechanical damage	6. X	6. X	N/A
C	Renewable only by means of a tool	JIC.	JA:	N/A
	If function depending on polarity, for cord- connected equipment protection means in both leads			N/A
1	Thermal links comply with IEC 60691	1 × 1	lan X.	N/A
	Electrical controls comply with IEC 60730-2-3			N/A
C3.2	No risk of fire by breaking (clause C7)	J.C.	an C	N/A
C5	CLASSIFICATION	1. 1	1	N/A
0	a) automatic resetting type	0	. (.	
1	b) manual resetting type	K 18	AN AN	1 - M
	c) non-renewable, non-resetting type			
to As	d) renewable, non-resetting type	1	No. 1	9 -
1 11	e) other type of thermal protection; description		10	N/A
C6	MARKING	0	6	N/A
C6.1	Symbol for temperature declared thermally protected ballasts	Ren 1	lave L	N/A
C6.2	Declaration of the type of protection provided	. C.	. C.	N/A
C7	LIMITATION OF HEATING	Par X	len X	N/A
C7.1	Preselection test:			N/A
IC TH	Test sample placed for at least 12 h in an oven having temperature (tc - 5) K	MC Y	MAC T	N/A
	No operation of the protection device			N/A
C7.2	Functioning of protection means	anc .	n na	N/A
~	Normal operation of the sample in a test enclosure according to Annex D at an ambient		1	N/A



	IEC 61347-2-13		
Clause	Requirement + Test	Result - Remark	Verdic
1	AX MAX MAX MAX	1 × Pri × P	V.
	No operation of the protection device		N/A
NC T	Introducing of the most onerous test condition determined during test of clause 14	IC THIC TH	N/A
IC .	Output of windings connected to the mains supply short-circuited, and other part of the convertor operated under normal conditions	C and a	N/A
	Increasing of the current through the windings continuously until operation of the protection means	c nc	N/A
1. Ze	Continuous measuring of the highest surface temperature	. Le. Le	N/A
NC XI	Ballasts according to C5 a) or C5 e) operated until stable conditions are achieved	IC THIC TH	N/A
	Automatic-resetting thermal protectors working 3 times	0	N/A
N X	Ballasts according to C5 b) working 6 times	1 KAN KA	N/A
2	Ballasts according to C5 c) and C5) d) working once	C	N/A
1	Highest temperature does not exceed the marked value	Leve Lu	N/A
C a	Any overshoot of 10% over the marked value within 15 min	C all a	N/A

DIC	ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TES THERMALLY PROTECTED LAMP CONTROLGEAR	TS OF	N/A
	Tests in C7 performed in accordance with Annex D, if applicable	~	N/A

E	ANNEX E – USE OF CONSTANT S OTHER THAN 4500 IN $t_{\rm w}$ TESTS	N/A
C	Annex E if windings of 50 Hz/60 Hz	🔘 N/A
E1 🔨	Constant S claimed	N/A
1	Claimed test method	N/A
E2	Procedure A	N/A
	Adequate data provided by the manufacturer	N/A
C	The inverse of the slope is greater than or equal to the claimed value of S	N/A
~	Compliance with the failure criteria for procedure B	N/A
E3	Procedure B	N/A



	IEC 61347-2-1	3			
Clause	Requirement + Test	R	esult - Remark	. C	Verdic
1	a, × b, × b, × b,	191	× lar	× 611	X
	Claimed value of T ₁	- 20			N/A
С.	Claimed value of T ₂		Jan C	Jn.	N/A
. <	Endurance test carried out at:	10.	Lb.	Lb.	N/A
	T ₁ (7 samples)			2	N/A
6	T ₂ (7 samples)	1410	- who	, and	N/A
1	Duration of test calculated from equation (2)	10	1	1.	N/A
6	T1 C of of		C	, ć	N/A
1	T2 Car Car Car	161	× 101	1/21	N/A
	During the test:				N/A
C 78	- No open circuit - No breakdown insulation	1 MMC	THAC	THAC	<
2011	The claimed constant S is deemed to be verif	fied			N/A

F	ANNEX F - DRAUGHT-PROOF ENCLOSURE	Р
NC .	Draught-proof enclosure in accordance with the description	P
	Dimensions of the enclosure	Р
.C	Other design; description	Р
31 X	en len len len len len len	19
Н	ANNEX H - TESTS	Р
NNC TH	All tests performed in accordance with the advice given in Annex H, if applicable	Pin

1C 71	ANNEX I - PARTICULAR ADDITIONAL REQUIREMENTS FOR INDEPENDENT SELV D.C. OR A.C. SUPPLIED ELECTRONIC STEP-DOWN CONVERTORS FOR FILAMENT LAMPS		
1.3	Classification	Do Do Do	_
I.3.1	Class I	Yes No	_
1	Class II	Yes No	—
1.3.2	a) non-inherently short circuit proof controlgear	Yes 🗌 No 🖂	_
	b) non-inherently open circuit proof controlgear	Yes 🗌 No 🖂	_
C a	c) inherently short circuit proof controlgear	Yes 🛛 No 🗌	
. <	d) inherently open circuit proof controlgear	Yes 🗌 No 🖂	
1	e) fail safe controlgear	Yes 🗌 No 🖂	—
N A	f) non-short-circuit proof controlgear	Yes 🗌 No 🖂	



TMC Testing	Services(Shenzhen) Co., Ltd.	Report No.: TMC18	30923111-S
Clause	Requirement + Test	Result - Remark	Verdict
Clause	Requiement rest	Incount incinain	Verdiet
1	g) non-open-circuit proof controlgear	Yes 🗌 No 🖂	
1.4	Marking	Sa Sa Sa	Р
. < ·	Adequate symbols are used	Refer to marking label	P
1.5	Protection against electric shock	1 1 1	
1.5.1	No connection between output winding and body	NC MC MC	P
~	No connection between output winding and protective earthing circuit		N/A
1.5.2	Input and output circuits electrically separated from each other	NC THAC THAC	P
1.5.2.1	Insulation between input and output winding of the HF-transformer consists of double or reinforced insulation	NC THAC THAC	P
C	Class II: insulation between input/output and body consists of double or reinforced insulation	Class I	N/A
, K.	Class I: insulation between input and body consists of basic and between output and body supplementary insulation	2 Len Len	P
1.5.2.2	Insulation between input and output winding via the core consists of double or reinforced insulation	Le Leve Leve	P
10 r	Insulation between cord and windings of the HD- transformer consists of basic insulation	NC THAC THAC	N/A
1.5.2.3	Serrated tape, additional layer		Р
1.5.2.4	Class I controlgear for fixed connection provided with basic insulation plus protective screening comply with the following conditions:	THAC THAC	N/A
IC T	a) Insulation between the input winding and the protective screen complies with the requirements for basic insulation	AC THAC THAC	N/A
C T	b) Insulation between the protective screen and the output winding complies with the requirements for basic insulation	AC THAC THAC	N/A
C	c) Metal screen consists of a metal foil or of a wire wound screen	ic ne ne	N/A
<	d) Metal screen so arranged that both edges cannot simultaneously touch a magnetic core	. In. In.	N/A
1C 78	e) Metal screen and its lead-out wire have a cross-section sufficient to ensure that an overload device will open the circuit before the screen is destroyed	NC THAC THAC	V

 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,

 Shuitian, Shiyan Street, Baoan District, Shenzhen, China

 (86)755 86642861
 Mail:cert@tmc-lab.com

 Page 19 of 29



	IEC 61347-2-13		
Clause	Requirement + Test	Result - Remark	Verdi
1	LAN XEN XEN XI	an Xan Xan	1
~	f) Lead-out wire sufficiently fixed to the metal screen	<i>c c c c</i>	N/A
1.6	Heating	We when the	Р
I.6.1	No excessive temperatures in normal use		Р
6 1	Used material classified as Class:	Class B	_
. 14	Stated value of t _a :	60 Degree C	
1.6.2	Temperature rises (Upri: 1.06 time supply rated vo	bltage)	
10 - T 14	Determined temperature rises in windings: - Primary (K)	AC THAC THAC	P
1	After the test:	1 1 1	Р
N XN	- no connections have worked loose	W XAN XAN	Р
6	- no reduction of creepage distances and clearances	C	Р
1 1	- no flow of sealing compound	an the the	Р
	- no operation of protecting devices		Р
C M	- electric strength test between input and output windings	NC THNC THNC	Р
1.6.3	Cycling test (10 cycles):		
1.6.3.1	- heat run at (K):	One One O	Р
1.6.3.2	- moisture treatment 48 h	V. V.	Р
1.6.3.3	- vibration test 1 h; 1,5 g	0 0 0	Р
1.6.3.4	After the tests:	an church and	X
	- insulation resistance \geq 2, 4 or 5 M Ω		Р
C ~W	- dielectric strength test for 2 min. at 35 % of specified value in table I.6	NC THIC THIC	Р
Ċ.	- Current or the ohmic component does not deviates by more than 30 %	.C .C .C	Р
1.7 <	Short-circuit and overload protection	a. 10, 10,	
1.7.1	Upri: 1.06 times rated voltage or 0.94 and 1.06 times rated supply voltage (V)	240*1.06=254.4VAC	Р
l.7.2 l.7.3 l.7.4	Determined temperature rise in windings and on o	ther parts:	
C. M	- test according to Clause	ma man	D

1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road, Shuitian, Shiyan Street, Baoan District, Shenzhen, China (86)755 86642861 Mail:cert@tmc-lab.com www.tmc-lab.com Page 20 of 29



Clause	Requirement + Test	Result - Remark	Verdia
1	1 XAL XAL XAL XA	a Kan Kan	1
	- Primary winding (K):		Р
C .	- Limit max (K)	On On On	Р
. <1	- Secondary winding (K):	n. Lu. Lu.	P
	- Limit max (K):		Р
10 1	- External enclosure <u><</u> 80 (K):	NC ANC ANC	Р
1	- Rubber insulation of wiring ≤ 60 (K):	1. 1.	Р
6	- PVC insulation of wiring < 60 (K):		Р
1 19	- Supports <u><</u> 80 (K):	the the the	Р
1.7.5	Fail-safe convertors		N/A
I.7.5.1	- Upri: 1.06 times rated supply voltageV:	NC on C on	
~	- Isec: 1.5 times rated output currentA:	Ale Ale	
6	- time until steady-state conditions t1 (h):	1 1 1	
1	- time until failure t2 (h): \leq t1; \leq 5 h	V KUN KUN	N/A
1.7.5.2	During the test:		N/A
C a	- no flames, molten material, etc.	in one of	N/A
. 18	- temperature rise of enclosure \leq 150 K	. Lo. Lo.	N/A
1	- temperature rise of plywood support \leq 100 K	1 1 1	N/A
N A	After the test:	Up all all	N/A
enc el	- electric strength (test voltage; 35 % of specified value); no flashover or breakdown for primary-to-secondary and for primary-to-body	E MC MC	N/A
	- live parts not accessible by test finger through holes of enclosure		N/A
1.8	Insulation resistance and electric strength	NC ANC ANC	_
l.8.1	Conditioned 48 h between 91 % and 95 %	1. 1.	Р
1.8.2	Adequate insulation (500 V d.c. for 1 min) between	Ja Ja 3	
1	Live parts and the body -for basic insulation not less than 2 $M\Omega$	>1000 MΩ	P
C AN	Live parts and the body -for reinforced insulation not less than 4 M Ω :	>1000 MΩ	Р
	Input- and output circuits not less than 5 M Ω :	>1000 MΩ	Р
1C 11	Metal parts of class II convertors which are separated from live parts by basic insulation only and the body not less than 5 MO	No metal part used	N/A

TMC Testing Services(Shenzhen) Co., Ltd. **Testing&Certification Services**



5			
Clause	Requirement + Test	Result - Remark	Verdie
1 × 6	$, \forall b, \forall $	$n, \forall b, \forall b,$	- 4
C at	Metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 M Ω :	>1000 MΩ	Ρ
1.8.3	Electric strength test:	. An. An.	
NC . 10	1) Between live parts of input circuits and live parts of output circuits:	3750V	Ρ
	2) Over basic or supplementary insulation between		N/A
NC A	a) live parts which are or may become of different polarity	1875V	Ρ
1	b) live parts and body if intended to be connected to protective earth:		N/A
NO YW	c) accessible metal parts and a metal rod of the same diameter as the flexible cable or cord:	THAC THAC	N/A
/	d) live parts and an intermediate metal part:	1 1 1	N/A
No xa	e) intermediate metal parts and the body::	10 AND AND	N/A
2	3) Over reinforced insulation between the body and live parts:	3750V	Ρ
No XA	No flashover or breakdown occurred	10 × MU × MU	Р
1.9	Construction		_
I.9.1	Comply with all requirements	San San San	Р
1.9.2	The distance between input and output terminals shall not be less than 25 mm:	>25mm	Ρ
I.10	Components	and and	_
I.10.1	Socket-outlets in the output circuit does not accept plugs complying with IEC 60083 and IEC 60906-1	C C C	Р
I.10.2	Self-resetting protective devices shall not be used unless it is certain that there will be no hazards	, La, La,	N/A
NC TH	Compliance is checked by connecting the convertor for 48 h at 1.06 times the rated voltage with the output short-circuited	IC THAC THAC	N/A
1.11	Creepage distances and clearances	1 1 1	
NY XA	1. Insulation between input and output circuits:	Un alle alle	
	a) measured values <pre>> specified values (mm):</pre>	>6.0mm	Р
C d	b) measured values <pre>> specified values (mm):</pre>	San San Sa	N/A
. <i>1</i> 9	c) measured values <pre>> specified values (mm):</pre>	Separately approved triple	Р

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services



Clause	Requirement + Test	Result - Remark	Verdic
1	AN THE ARY ARY ARY	3. × la × la	1
~	 Insulation between adjacent <u>input</u> circuits: measured values <u>></u> specified values (mm) 		N/A
NC Y	 Insulation between adjacent <u>output</u> circuits: measured values <u>></u> specified values (mm) 	and LINU LINU	N/A
6	3. Insulation between terminals for external conne	ction:	_
No XI	a) measured values > specified values (mm)	: >6.0mm	Р
	b) measured values <pre>> specified values (mm)</pre>	:	N/A
C .	c) measured values <pre>> specified values (mm)</pre>	and and	N/A
. <	4. Basic or supplementary insulation:	4. Ale. Ale.	Р
1	a) measured values > specified values (mm)	: >3.0mm	Р
No XI	b) measured values <pre>> specified values (mm)</pre>	IL AND AND	N/A
	c) measured values <pre>> specified values (mm)</pre>	:	N/A
NC 21	5. Reinforced insulation: measured values <pre>> specified values (mm)</pre>	>6.0mm	P
	6. Distande through insulation:		N/A
C	a) measured values <pre>> specified values (mm)</pre>	San San San	N/A
	b) measured values > specified values (mm)	: >1.0mm	P
7	c) measured values > specified values (mm)		N/A
N	d) measured values > specified values (mm)	no no on	N/A

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,
Shuitian, Shiyan Street, Baoan District, Shenzhen, China
(86)755 86642861
Mail:cert@tmc-lab.com
Mail:cert@tmc-lab.comwww.tmc-lab.comPage 23 of 299



			IEC 61347-2-	-13		
Clause	Requirem	nent + Test	.0	Result -	Remark	Verdic
1 × Gu	2	11 × 61	19X	× Gr	× Ch	Qr X
	ANNEX 1:	components				Р
object/part No	o. code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Fuse(F1)	B	Ever Island Electric Co. Led and Walter electric	2010 Series(s)	T/AC250V /1.0A	EN 60127-1 EN 60127-3	VDE 40018781
Terminal	В	Various	Various	AC250V/10A	/	VDE
CY1	A	TDK-EPC corporation	CD	250/400v, 2200pF 125C/ Y1	IEC 60384-14	VDE135256
L Lan	D	Various	Various	250/400v, 2200pF 125C/ Y1	IEC 60384-14	VDE
Optocoupler	В	Sharp	PC817	100C	EN 60747-5-2	VDE4000808
PCB	A	T&K PCB Co,ltd	CEM1	130C/V-0	IEC61347-2- 13/AS/NZS 61347.1	Test in appliance
IC THAT		Various	Various	130C/V-0	IEC61347-2- 13/AS/NZS 61347.1	Test in appliance
Insulation Tap	B	Jingjiang yahua pressure sensitive glue Co.,Itd	CT	Polyimide 130C, V-0	IEC61347-2- 13/AS/NZS 61347.1	Test in appliance
IC THAT	СВ	Various	Various	Polyimide 130C, V-0	IEC61347-2- 13/AS/NZS 61347.1	Test in appliance
Winding of transformer	В	Pacific electric wire&cable (Shenzhen)	UEW/U	130C, V-0	IEC61347-2- 13/AS/NZS 61347.1	Test in appliance

Secondary wire of transformer	В	Furukawa electric Co.,Itd	TEX-E	130C, V-0	IEC61347-2- 13/AS/NZS 61347.1	Test in appliance
Bobbin of transformer	В	Sumitomo Bakelite Co., Itd	PM9820	150C, V-0	IEC61347-2- 13/AS/NZS 61347.1	Test in appliance

1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,
Shuitian, Shiyan Street, Baoan District, Shenzhen, China
(86)755 86642861
Mail:cert@tmc-lab.com
Mail:cert@tmc-lab.comwww.tmc-lab.comPage 24 of 299



				IEC 61347	/-2-13		· · · · ·
Clause	Red	quiren	nent + Test	C an	1	Result - Remark	Verdict
Metal enclos	sure	В	Various	Various	80C, V-	2 IEC61347-2- 13/AS/NZS 61347 1	Test in appliance

The codes above have the following meaning:

- A The component is replaceable with another one, also certified, with equivalent characteristics
 - The component is replaceable if authorised by the test house
 - Integrated component tested together with the appliance
 - Alternative component

В

С

D

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services

 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,

 Shuitian, Shiyan Street, Baoan District, Shenzhen, China

 (86)755 86642861
 Mail:cert@tmc-lab.com

 www.tmc-lab.com

 Page 25 of 29



		IEC 613	347-2-13			
Clause	Requirement +	- Test	0	Result - Rem	nark	Verdict
1 40	, × 61,	× 61 × 61	1	1 25	an Lan	~
Temperature	Femperature rise and heating test					Р
S	Type referer	ice	(i	LED driver	ne an	U —
. Lu	Test Voltage	$\overline{\langle b, -\overline{\langle l} \rangle \rangle } }} \right} } } } } } } } } } } } } } $	<u></u>	240V~	n. Lu.	
/	Supply wattage (W) 180W					
WX VI	Supply Curre		: 0.78A			
	Mounting po	sition		As instruct	ion manual	
C	Frequency		(i	50/60Hz	ne an	
14	Table: Meas	ured temperatures corre	ected for ta=4	5°C	h. Lu.	<
temperature (°C) of part		207V	254.	.4V	Limited(°C)	Verify
		t (°C)	t (°	C)		
Plastic enclosure inside		52,1	52	,8	80	Р
Plastic enclos	sure outside	51,2	51	,4	80	Р
Terminal bloc	xk	61,2	60	,1	Ref.	Р
T1 winding	2 2	89	90	90		Р
T1 Bobbin		86,2	91	91,1		Р
PWB under T	1	77,2	76,3		130	Р
Y capacitor	C N	66.8	65	,9	125	Р
Mounting surf	face	53,8	53,4		Ref.	Р

TMC Testing Services(Shenzhen) Co., Ltd. Testing&Certification Services

 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road, Shuitian, Shiyan Street, Baoan District, Shenzhen, China

 (86)755 86642861
 Mail:cert@tmc-lab.com

 Page 26 of 29

	IEC 61347-2-13						
Clause	Requirement + Test		Result - Remark	Verdic			
1	a van van v	a ~ ~ a	MX MAX M	1			
<u> </u>	Attachment 1: (AU/NZ) Australian AS/NZS61347.1:2002	h/New Zealand D	eviations	P			
1	N KIN KIN K	Mr M	Mr Mr XW	X			
	(AU/NZ) Australian/New Zealand	Deviations AS/N	ZS61347.1:2002	Р			
5	In Australia, the supply voltage is 2 6% and for testing according to this rated voltage shall be 240V/415V	230/400v+10%- s standard, the	C THUC TH	C P			
8	Cables and cords shall comply with requirements of section 5 of AS/NZ	n the relevant ZS 60598.1	C and a	N/A			
9	Protective earth(Ground). Symbol IEC-5019	417C-	C all al	N/A			
18.2	Parts of insulating material retailing carrying parts, SELV parts in positi external parts of insulating materia protection against electric shock sh to flame and ignition.	g current on, and I providing nall be resistant	C THAC TH	P			
18.2.1	Parts of insulating material retainin carrying parts in position shall with following tests: Glow-wire of 750°C	g current stand the	See appended table	IC P			
18.2.2	Parts of insulating material which d live parts in position, but which pro- against electric shock, and parts of material retaining SELV, parts in po- withstand the following test: Glow-wire of 650°C	lo not retain vide protection f insulating osition shall	See appended table	P			
C	Do not apply in those cases where gear provide and effective barrier to drops where the insulation materia	the control o burning I is ceramic	C WIC W	N/A			
18.2.3	Parts that withstand the glow-wire flame during the application of the surrounding parts are subjected to flame test of 30s	test but with glow-wire, the the needle-	C THUC TH	N/A			
C	Parts shielded by a separate barrie the needle-flame test are not tested	er that meets d	C C	N/A			
, <,	Not carried out on material classifie FV-1 according to AS/NZS 4695.70	ed as FV-0 or 07	141 - 141	N/A			
C	Needle-flame test on parts, other the enclosures, do not withstand the flo	han ow-wire tests	C AMC AN	N/A			
	Parts shielded by a separate barrie the needle-flame test are not tested	er that meets d		N/A			



Clause Requirem	Requirement + Test		Result	Verdict	
Kan Ka	1 Kan	1 Car	× 191	× Gu	Can Ca
Parts name; material spe applicable	c. if Test Temp (°C)	Duration of flame(s)	Height of flame(mm)	Burning drop ignite tissue paper(Y/N)	Verify
РСВ	750	No	No	N	Р
Bobbin of transformer	750	No	No	N	CP
Ferminal block	750	No	No	< ^N N	KU, B K
Plastic enclosure	650	No	No	N	Р

 (AU/NZ) Australian/New Zealand Deviations AS/NZS61347.1.13
 P

 No deviation reported
 P



 1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road,

 Shuitian, Shiyan Street, Baoan District, Shenzhen, China

 (86)755 86642861
 Mail:cert@tmc-lab.com

 www.tmc-lab.com

 Page 28 of 29



1st Floor, Block A1, Zone A, Xinshidai Gongrong Industrial Park, No. 2, Shihuan Road Shuitian, Shiyan Street, Baoan District, Shenzhen, China (86)755 86642861 Mail:cert@tmc-lab.com www.tmc-lab.com Page 29 of 29