Test Report issued under the responsibility of:

Intertek Testing Services Shenzhen Ltd.

Guangzhou Branch

TEST REPORT

IECEN 61347-2-2

Part 2: Particular requirements

Section Two – d.c. or a.c. supplied electronic step-down convertors for filament lamps

Report Reference No......:	GZ08010397-1R1
Date of issue.....:	25 January 2011
Total number of pages .....:	29
CB Testing Laboratory.....:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Address.....:	Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
Applicant's name.....:	Eaglerise Electric & Electronic (Foshan) Co., Ltd.
Address.....:	Guicheng Sci-Tech Industrial Park, Jianping Road, Nanhai District, Foshan City, Guangdong Province, P. R. China
Test specification:	
Standard .....:	☐ IEC 61347-2-2:2000+A1:2005+A2:2006 used in conjunction with IEC 61347-1:2007 ☒ EN 61347-2-2:2001+A1:2006+A2:2006 used in conjunction with EN 61347-1:2008
Test procedure .....:	S + LVD
Non-standard test method……..:	N/A
Test Report Form No.....:	TTRF_IECEN61347_2_2B
TRF Originator.....:	Intertek Semko Guangzhou
Master TRF.....:	Dated 2010-01

Test item description .....:	Electronic step-down convertor for filament lamp
Trade Mark .....:	EAGLERISE
Manufacturer.....:	Eaglerise Electric & Electronic (Foshan) Co., Ltd.
Model/Type reference.....:	EET210CK
Ratings.....:	Input: 230-240 V~; 50/60 Hz; 0,95 A; λ 0,97; Output: 11,5 VAC; Max. 210 W; Lamp: 12 V / 50-210 W halogen lamp; ta 40 °C; tc 75 °C; F-symbol; Class II; 110 °C thermally protected; Independent short-circuit proof SELV convertor

Testing procedure and testing location:		
☒	**CB Testing Laboratory**:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Testing location/ address ..... :		Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
☐	**Associated CB Laboratory:**	
Testing location/ address ..... :		
	Tested by (name + signature)..... :	Harry Zou Harry Zou
	Approved by (+ signature)..... :	Shelley Ying Shelley Ying
☐	Testing procedure: TMP	
	Tested by (name + signature)..... :	—
	Approved by (+ signature)..... :	—
Testing location/ address ..... :		
☐	Testing procedure: WMT	
	Tested by (name + signature)..... :	—
	Witnessed by (+ signature)..... :	—
	Approved by (+ signature)..... :	—
Testing location/ address ..... :		
☐	Testing procedure: SMT	
	Tested by (name + signature)..... :	—
	Approved by (+ signature)..... :	—
	Supervised by (+ signature)..... :	—
Testing location/ address ..... :		
☐	Testing procedure: RMT	
	Tested by (name + signature)..... :	—
	Approved by (+ signature)..... :	—
	Supervised by (+ signature)..... :	—
Testing location/ address ..... :		

Summary of testing:

The tested samples fulfill the requirements of specified standards.

Tests performed (name of test and test clause):

7 marking
8 Protection against accidental contact with live parts
9 Terminals
10 Provisions for earthing
11 Moisture resistance and insulation
12 Electric strength
14 Fault conditions
15 Transformer heating
16 Abnormal conditions
17 Construction
18 Creepage distances and clearances
19 Screws, current-carrying parts and connections
20 Resistance to heat, fire and tracking
21 Resistance to corrosion
Annex C Particular requirements for electronic lamp controlgear with means of protecting against overheating
Annex I Particular additional requirements for independent SELV d.c. or a.c. supplied electronic step-down convertors for filament lamps

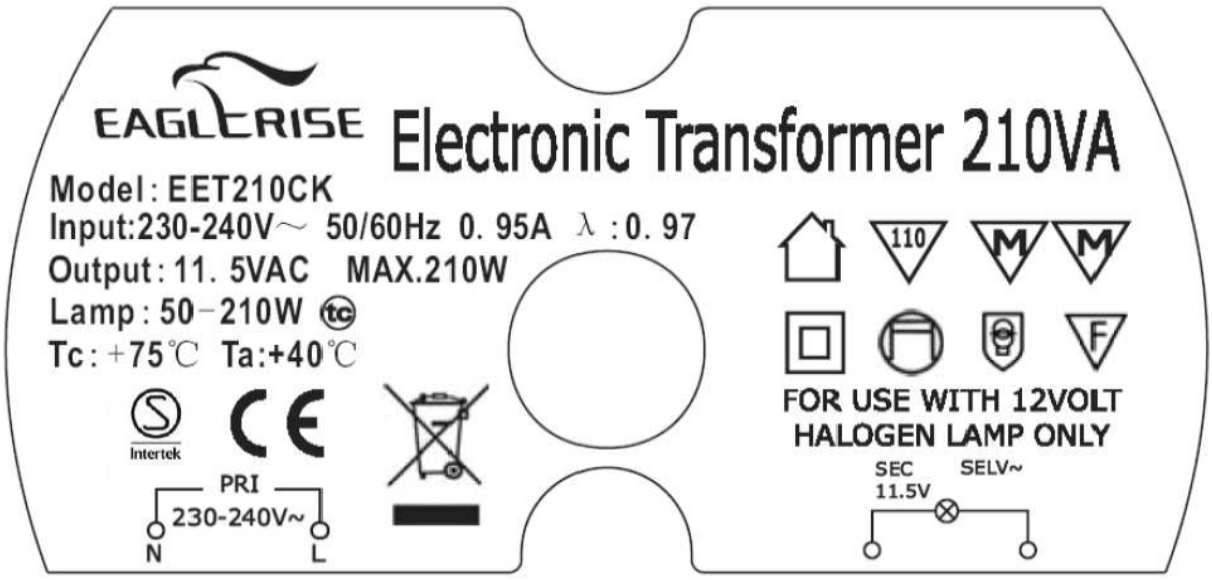
Testing location:

Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China

Summary of compliance with National Differences:

Not checked

Copy of marking plate



Location: Attached on the enclosure

Remark on above marking:

1, The height of graphical symbols shall not be less than 5 mm;

2, The height of letters and numerals shall be not less than 2 mm.

Test item particulars ..... :	
Classification of installation and use ..... :	Independent; Class II; SELV output; for 12 V halogen lamp use
Supply Connection ..... :	Lead wire
Possible test case verdicts:	
- test case does not apply to the test object ..... :	N/A (not applicable)
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
Testing	
Date of receipt of test item ..... :	11 January 2008
	1st revision: 30 December 2010
Date (s) of performance of tests ..... :	11 January 2008 to 15 April 2008
	1st revision: 30 December 2010 to 25 January 2011

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.
Throughout this report a comma is used as the decimal separator.

Clause numbers between brackets refer to clauses in IEC 61347-1.

When determining for test conclusion, measurement uncertainty of tests has been considered.

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

The test report only allows to be revised only within the report defined retention period unless standard or regulation was withdrawn or invalid.

The clause which indicated with * is the subcontract test item.

Additional requirements for independent step-down SELV electrical transformer according to EN 60598-2-6 was evaluated in test report GZ08010397-2R1.

Total 29 pages; Page 1 to 26 for test report; Page 27 to 29 for product photos

Manufacturing site: Eaglerise Electric & Electronic (foshan) Co., Ltd.

Manufacturing address:Guicheng Sci-Tech Industrial Park, Jianping Road, Nanhai District, Foshan City, Guangdong Province, P.R. China

Revision History:

1st revision: Based on and superseded the original report GZ08010397-1 (Issued on 15 April 2008), updated the standard version of EN 61347-1.

General product information:

The product is class II independent step-down SELV electrical transformer, the load is 12 V; 50-210 W halogen lamp.

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
1+4	**SCOPE AND GENERAL REQUIREMENTS**		—
	Annex I applicable .....:	Yes ☒ No ☐	—
6 (6)	**CLASSIFICATION**		—
	Independent convertor .....:	Yes ☒ No ☐	—
	Built-in convertor .....:	Yes ☐ No ☒	—
	Integral convertor .....:	Yes ☐ No ☒	—
	SELV-equivalent or isolating convertor .....:	Yes ☒ No ☐SELV insulating convertor	—
	Auto-wound convertor .....:	Yes ☐ No ☒	—
7	**MARKING**		**P**
7.1 (7.1)	Mandatory markings:		P
	- mark of origin	EAGLERISE	P
	- model number, type reference .....:	EET210CK	P
	- symbol for independent convertor, if applicable		P
	- correlation between interchangeable parts and convertor marked		N/A
	- legend on the convertor		N/A
	- manufacturer's catalogue		N/A
	- rated supply voltage (V) .....:	220-240	P
	- value of t_c	75 °C	P
	- wiring diagram		P
	- earthing symbol		N/A
	- symbol for declared temperature	110 °C	P
	- rated output voltage	11,5 V~	P
7.2 (7.1)	- information to be provided, if applicable		P
	- declaration on protection against accidental contact		P
	- cross-section of conductors (mm²) .....:		N/A
	- number, type and wattage of lamp(s)		P
	- declarationof mains connected windings		N/A
	- declaration for SELV-equivalent convertor		N/A
	- no marking on integral ballast		N/A
- (7.2)	Marking durable and legible		P

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
	Rubbing 15 s water, 15 s petroleum; marking legible		P
8 (10)	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		**P**
- (10.1)	Convertor protected against accidental contact with live parts		P
- (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. .....:		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) .....:		N/A
- (A3)	The voltage between the part concerned and any accessible part is measured and does not exceed 34 V (peak).....:		N/A
- (10.1)	Lacquer or enamel not used for protection or insulation		N/A
	Adequate mechanical strength on parts providing protection		P
8.1	Accessible parts insulated from live parts by double or reinforced insulation		N/A
	Compliance with 9.3.4 and 9.3.5 of IEC 60065		N/A
8.2	Exposed terminals if - rated output voltages does not exceeding 25 V r.m.s and - the no-load output voltage does not exceed 30 V r.m.s or 33 V2 V peak unsmoothed d.c.		N/A
	Insulated terminals if convertor with rated output voltage above 25 V		N/A
	Capacitors used in series between primary and secondary circuit. One Y1 or two Y2 of same value complying with IEC 60384-14		N/A
	Resistors used in series between primary and secondary circuit. Two of same value complying with IEC 60065, clause 14		N/A
8.3	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V .....:		N/A
9 (8)	**TERMINALS**		N/A
	Screw terminals: compliance with Section 14 of IEC 60598-1		N/A
	Screwless terminals: compliance with Section 15 of IEC 60598-1		N/A

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
10 (9)	**PROVISION FOR EARTHING**		N/A
	External metal parts connected to the earth-terminal:		N/A
	- compliance with 7.2.1 in IEC 60598-1		N/A
	Test with a current of 10 A between earthing terminal and each of the accessible metal parts; measured resistance (Ω): < 0,5 Ω .....:		N/A
	Protective earth, symbol		N/A
	Terminal complying with clause 8 in Part 1		N/A
	Locked against loosening and not possible to loosen by hand		N/A
	Not possible to loosen clamping means unintentionally on screwless terminals		N/A
	Earthing via means of fixing		N/A
	Earthing terminal only used for the earthing of the control gear		N/A
	All parts of material minimizing the danger of electrolytic corrosion		N/A
	Made of brass or equicvalent material		N/A
	Contact surface bare metal		N/A
	Conductors by tracks on printed circuit boards:		N/A
	- a.c. current of 25 A for 1 min between earthing terminal and accessible metal parts		N/A
	- compliance with clause 7.2.1 in IEC 60598-1		N/A
11 (11)	**MOISTURE RESISTANCE AND INSULATION**		**P**
	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance with d.c. 500 V (MΩ): ≥ 2 MΩ .....:	48 h; 93 %; 25 °C > 100 MΩ	P
	Adequate insulation between input and output terminals not bounded together		N/A
	For double or reinforced insulation the resistance exceeds 4 MΩ		P
12 (12)	**ELECTRIC STRENGTH**		**P**
	Immediately after clause 11 electric strength test for 1 min		P
	Working voltage ≤ 42 V, test voltage 500 V		N/A
	Working voltage > 42 V, test voltage (V): 2U + 1000 V .....:	1480 V	P
	Reinforced insulation, test voltage (V): .....:	3710	P

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
	No flashover or breakdown		P
	Windings in separating transformers in SELV-equivalent convertors according to 14.3.2 of IEC 60065		N/A
13 (13)	**THERMAL ENDURANCE FOR WINDINGS (Not applicable)**		—
14 (14)	**FAULT CONDITIONS**		**P**
	When operated under fault conditions the ballast: - does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected ballasts does not exceed the marked temperature value		P
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected		P
	The output voltage of the convertor, when open, does not exceed 115 % of the rated output voltage		P
14.1 (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)	N/A
	Distances on printed boards provided with coating according to IEC 60664-3		N/A
14.2 (14.2)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
14.3 (14.3)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A
14.4 (14.4)	Short-circuit across electrolytic capacitors	(see appended table)	P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
15	**TRANSFORMER HEATING**		N/A
	Windings of separating transformer in a SELV-equivalent controlgear fulfil the requirements according to 7.1 and 11.2 of IEC 60065		N/A
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		N/A

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
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		N/A
	Ambient temperature at t_c ..... :		N/A
16	**ABNORMAL CONDITIONS**		**P**
	Safety not impaired when the convertor is operated at any voltage between 90% and 110% of rated voltage		P
	Test voltage (V)..... :	264,0	—
	a) No lamp inserted		P
	b) Double the number of lamps connected in parallel to the output terminals		P
	c) Output terminals short-circuited		P
	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced		P
	Furthermore, during and at the end of the test under item b), the output voltage did not rise to more than 115 % of the rated voltage		P
	After the tests, insulation resistance not less than 1 MΩ ..... :	> 100 MΩ	P
17 (15)	**CONSTRUCTION**		**P**
15.1 (15.1)	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
15.2 (15.2)	Printed boards used as internal connections complies with clause 14		P
	Socket-outlet in the output circuit does not accept plugs complying with IEC 60083 and IEC 60906		N/A
	Not possible to engage plugs accepted by socket-outlet in the output circuit with socket-outlets complying with IEC 60083 and IEC 60906		N/A
18 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
	Creepage distances and clearances according to Table 3 and 4, as appropriate	(see appended table)	P
	Printed boards see clause 14		P
	Insulating lining of metallic enclosures		N/A
19 (17)	**SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS**		**P**

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
	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		P
(4.11.1)	Contact pressure		P
(4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
	- at least two self-tapping screws		N/A
(4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
(4.11.4)	Material of current-carrying parts		P
(4.11.5)	No contact to wood		P
(4.12)	Mechanical connections and glands		P
(4.12.1)	Mechanical stress		P
	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: part; torque (Nm) .....:	Metal screw of cord anchorage (Φ 3,0 mm): 0,50 Nm	P
	Torque test: part; torque (Nm) .....:		N/A
	Torque test: part; torque (Nm) .....:		N/A
(4.12.2)	Screw diameter < 3 mm screwed into metal		N/A
(4.12.3)	Void		—
(4.12.4)	Locked connections		N/A
(4.12.5)	Screwed glands: force (N) .....:		N/A

20 (18)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		**P**
(18.1)	Parts of insulating material retaining live parts in position, ball-pressure test:		P
	- part; test temperature (°C) .....:	Bobbin of T1: 125	P
	- part; test temperature (°C) .....:	Bobbin of T2: 155	P
	- part; test temperature (°C) .....:	Enclosure: 105	
(18.2)	Printed boards in accordance with IEC 60249-1, 4.3		P
(18.3)	External parts of insulating material preventing electric shock glow-wire test 650 °C	Enclosure	P
(18.4)	Parts of insulating material retaining live parts in position, needle-flame test 10 s:		P

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
	- flame extinguished within 30 s	Bobbin of T1; Bobbin of T2	P
	- no flaming drops igniting tissue paper		P
(18.5)	Tracking test		N/A
21 (19)	**RESISTANCE TO CORROSION**		N/A
	Rust protection:		N/A
	- 10% solution of ammonium chloride in water		N/A
	- adequate varnish on the outer surface		N/A
- (20)	**NO-LOAD OUTPUT VOLTAGE**		N/A
	No load output voltage not differ more than 10 % from rated voltage		N/A

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict

14	**TABLE: tests of fault conditions**	**P**
Part	Simulated fault	Hazard
D1	Short circuit	NO
D2	Open circuit	NO
D5	Short circuit	NO
D9	Short circuit	NO
DB3	Short circuit	NO
Q1	C & E pins short circuit	NO
Q2	C & E pins short circuit	NO
Q3	C & E pins short circuit	NO
C3	Short circuit	NO
C4	Short circuit	NO
VR1	Short circuit	NO

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict

18 (16)	**TABLE: creepage distances and clearances** **(EN group deviation please read appendix: CENELEC COMMON MODIFICATIONS (EN))**						N/A
	Minimum distances for a.c. (50/60 Hz) sinusoidal voltages						N/A
RMS working voltage (V) not exceeding		50	150	250	500	750	1000
1 minimum distances between live parts of different polarity. Specify the value measured.		--	--	--	--	--	--
2 minimum distances between live parts and accessible parts which are permanently fixed to the ballast, including screws or devices for fixing covers or fixing the ballast to its support. Specify the value measured.		--	--	--	--	--	--
- required creepage distances (mm), insulation PTI ≥ 600		0,6	1,4	1,7	3	4	5,5
- required creepage distances (mm), insulation PTI < 600		1,2	1,6	2,5	5	8	10
- required clearances (mm)		0,2	1,4	1,7	3	4	5,5
3 minimum distances between live parts and a flat supporting surface or a loose metal cover, if any, if the construction does not ensure that the values under 2 above are maintained under the most unfavourable circumstances		--	--	--	--	--	--
- required clearances (mm)		2	3,2	3,6	4,8	6	8
	Minimum distances for non-sinusoidal pulse voltages						N/A
rated pulse voltage (peak kV)	2,0	2,5	3,0	4,0	5,0	6,0	8,0
required minimum distances, clearances (mm)	1,0	1,5	2	3	4	5,5	8
Specify the value measured	--	--	--	--	--	--	--
rated pulse voltage (peak kV)	10	12	15	20	25	30	40
required minimum distances, clearances (mm)	11	14	18	25	33	40	60
Specify the value measured	--	--	--	--	--	--	--
rated pulse voltage (peak kV)	50	60	80	100	-	-	-
required minimum distances, clearances (mm)	75	90	130	170	-	-	-
Specify the value measured	--	--	--	--	--	--	--

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
A	**ANNEX A (NORMATIVE), TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK**		N/A
A.2	See clause 8 A.2 in this Test Report		N/A
A.3	See clause 8 A.3 in this Test Report		N/A
C	**ANNEX C – PARTICULAR REQUIREMENTS FOR CONVERTORS WITH MEANS OF PROTECTION AGAINST OVERHEATING**		**P**
C3	**GENERAL REQUIREMENTS**		**P**
C3.1	Thermal protection means integral with the convertor, protected against mechanical damage		P
	Renewable only by means of a tool		N/A
	If function depending on polarity, for cord-connected equipment protection means in both leads		N/A
	Thermal links comply with IEC 60691		N/A
	Electrical controls comply with IEC 60730-2-3		N/A
C3.2	No risk of fire by breaking (clause C7)		P
C5	**CLASSIFICATION**		**P**
	a) automatic resetting type	NTC used	—
	b) manual resetting type		—
	c) non-renewable, non-resetting type		—
	d) renewable, non-resetting type		—
	e) other type of thermal protection; description .....:		N/A
C6	**MARKING**		**P**
C6.1	Symbol for temperature declared thermally protected ballasts	110	P
C6.2	Declaration of the type of protection provided	In user manual	P
C7	**LIMITATION OF HEATING**		**P**
C7.1	Preselection test		P
	Test sample placed for at least 12 h in an oven having temperature (tc - 5) K	70 °C	P
	No operation of the protection device		P
C7.2	Functioning of protection means		P

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
	Normal operation of the sample in a test enclosure according to Annex D at an ambient temperature such that (t_c +0; -5) °C is obtained		P
	No operation of the protection device		P
	Introducing of the most onerous test condition determined during test of clause 14		P
	Output of windings connected to the mains supply short-circuited, and other part of the convertor operated under normal conditions		N/A
	Increasing of the current through the windings continuously until operation of the protection means		P
	Continuous measuring of the highest surface temperature		P
	Ballasts according to C5 a) or C5 e) operated until stable conditions are achieved		N/A
	Automatic-resetting thermal protectors working 3 times		P
	Ballasts according to C5 b) working 6 times		N/A
	Ballasts according to C5 c) and C5) d) working once		N/A
	Highest temperature does not exceed the marked value		P
	Any overshoot of 10% over the marked value within 15 min		N/A
D	**ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROLGEAR**		P
	Tests in C7 performed in accordance with Annex D, if applicable		P
E	**ANNEX E – USE OF CONSTANT S OTHER THAN 4500 IN t_w TESTS**		N/A
E1	Constant S claimed		N/A
	Claimed test method		N/A
E2	Procedure A		N/A
	Adequate data provided by the manufacturer		N/A
	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
	Claimed value of T_1		N/A
	Claimed value of T_2		N/A
	Endurance test carried out at:		N/A

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
	T_1 (7 samples)		N/A
	T_2 (7 samples)		N/A
	Duration of test calculated from equation (2)		N/A
	T_1		N/A
	T_2		N/A
	During the test: - No open circuit - No breakdown insulation		N/A
	The claimed constant S is deemed to be verified		N/A
F	**ANNEX F - DRAUGHT-PROOF ENCLOSURE**		**P**
	Draught-proof enclosure in accordance with the description		P
	Dimensions of the enclosure		P
	Other design; description		N/A
H	**ANNEX H - TESTS**		**P**
	All tests performed in accordance with the advise given in Annex H, if applicable		P
I	**ANNEX I - PARTICULAR ADDITIONAL REQUIREMENTS FOR INDEPENDENT SELV D.C. OR A.C. SUPPLIED ELECTRONIC STEP-DOWN CONVERTORS FOR FILAMENT LAMPS**		**P**
I.3	**Classification**		—
I.3.1	Class I	Yes ☐ No ☒	—
	Class II	Yes ☒ No ☐	—
I.3.2	Non inherently short-circuit proof convertor	Yes ☐ No ☒	—
	Inherently short-circuit proof convertor	Yes ☒ No ☐	—
	Fail safe convertor	Yes ☐ No ☒	—
	Non short-circuit proof convertor	Yes ☐ No ☒	—
I.4	**Marking**		—
	Adequate symbols are used		P
I.5	**Protection against electric shock**		—
I.5.1	No connection between output winding and body		P
	No connection between output winding and protective earthing circuit		N/A
I.5.2	Input and output circuits electrically separated from each other		P

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
I.5.2.1	Insulation between input and output winding of the HF-transformer consists of double or reinforced insulation		P
	Class II: insulation between input/output and body consists of double or reinforced insulation		P
	Class I: insulation between input and body consists of basic and between output and body supplementary insulation		N/A
I.5.2.2	Insulation between input and output winding via the core consists of double or reinforced insulation		P
	Insulation between cord and windings of the HD-transformer consists of basic insulation		P
I.5.2.3	Serrated tape, additional layer		N/A
I.5.2.4	Class I convertor for fixed connection provided with basic insulation plus protective screening comply with the following conditions:		N/A
	a) Insulation between the input winding and the protective screen complies with the requirements for basic insulation		N/A
	b) Insulation between the protective screen and the output winding complies with the requirements for basic insulation		N/A
	c) Metal screen consists of a metal foil or of a wire wound screen		N/A
	d) Metal screen so arranged that both edges cannot simultaneously touch a magnetic core		N/A
	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		N/A
	f) Lead-out wire sufficiently fixed to the metal screen		N/A
I.5.2.5	Last turn of each winding of the transformer retained by positive means		P
	Impregnated winding		N/A
	Winding held together by means of insulating material		N/A
I.5.3	Components bridging between input and output circuit		P
I.5.3.1	Used capacitors and resistors comply with 8.2		P
I.5.3.2	Used opto-couplers		N/A
I.6	**Heating**		—
I.6.1	No excessive temperatures in normal use		P
	Used material classified as Class _____	Class E	—

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
	Stated value of t_a _____	40 °C	—
I.6.2	Upri: 1.06 time supply rated voltage	254,4 V	—
	Determined temperature rises in windings: - Primary: _____ K - Limit max: _____ K - Secondary: _____ K - Limit max: _____ K	 65 90 51 90	P
	After the test:		P
	- no connections have worked loose		P
	- no reduction of creepage distances and clearances		P
	- no flow of sealing compound		N/A
	- no operation of protecting devices		P
	- electric strength test between input and output windings		P
I.6.3	Cycling test (10 cycles):		N/A
I.6.3.1	- heat run at _____ K		N/A
I.6.3.2	- moisture treatment 48 h		N/A
I.6.3.3	- vibration test 1 h; 1,5 g		N/A
I.6.3.4	After the tests:		N/A
	- insulation resistance		N/A
	- dielectric strength test at 35 % of specified value; test voltage _____ V		N/A
	- Current or the ohmic component does not deviates by more than 30 %		N/A
I.7	**Short-circuit and overload protection**		**P**
I.7.1	Upri: 1.06 times rated voltage or 0.94 and 1.06 times rated supply voltage - used voltage _____ V	254,4	P
I.7.2 I.7.3 I.7.3.1 I.7.3.2 I.7.3.3 I.7.3.4 I.7.3.5 I.7.4	Determined temperature rise in windings and on other parts:		P
	- test according to Clause _____	I.7.2	P
	- Primary winding _____ K	60	P
	- Limit max _____ K	125	P

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
	- Secondary winding _____ K	51	P
	- Limit max _____ K	125	P
	- External enclosure _____ K	46	P
	- Limit max K	65	P
	- Rubber insulation of wiring _____ K	—	N/A
	- Limit max 60 K	—	N/A
	- PVC insulation of wiring _____ K	28	P
	- Limit max K	45	P
	- Supports _____ K	42	P
	- Limit max K	65	P
I.7.5	Fail-safe convertors		N/A
I.7.5.1	- Upri: 1.06 times rated supply voltage ..... V:		—
	- Isec: 1.5 times rated output current ..... A:		—
	- time until steady-state conditions t1 (h) .....:		—
	- time until failure t2 (h): ≤ t1; ≤ 5 h .....:		N/A
I.7.5.2	During the test:		N/A
	- no flames, molten material, etc.		N/A
	- temperature rise of enclosure ≤ 150 K		N/A
	- temperature rise of plywood support ≤ 100 K		N/A
	After the test:		N/A
	- electric strength (test voltage; 35 % of specified value); no flashover or breakdown for primary-to-secondary and for primary-to-body		N/A
	- live parts not accessible by test finger through holes of enclosure		N/A
I.8	**Insulation resistance and electric strength**		P
I.8.1	Conditioned 48 h between 91 % and 95 %		P
I.8.2	Adequate insulation (500 V d.c. for 1 min) between:		P
	Live parts and the body -for basic insulation not less than 2 MΩ ..... :		N/A
	Live parts and the body -for reinforced insulation not less than 4 MΩ ..... :	> 100 MΩ	P
	Input- and output circuits not less than 5 MΩ ..... :	> 100 MΩ	P
	Metal parts of class II convertors which are separated from live parts by basic insulation only and the body not less than 5 MΩ ..... :		N/A
	Metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 MΩ ..... :	> 100 MΩ	P

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
I.8.3	Electric strength test:		P
	1) Between live parts of input circuits and live parts of output circuits ..... :	3750 V	P
	2) Over basic or supplementary insulation between:		P
	a) live parts which are or may become of different polarity ..... :	1875 V	P
	b) live parts and body if intended to be connected to protective earth ..... :		N/A
	c) accessible metal parts and a metal rod of the same diameter as the flexible cable or cord ..... :		N/A
	d) live parts and an intermediate metal part ..... :		N/A
	e) intermediate metal parts and the body ..... :		N/A
	3) Over reinforced insulation between the body and live parts ..... :	3750 V	P
	No flashover or breakdown occurred		P
I.9	**Construction**		P
I.9.1	Comply with all requirements		P
I.9.2	The distance between input and output terminals shall not be less than 25 mm ..... :		N/A
I.10	**Components**		**P**
I.10.1	Socket-outlets in the output circuit does not accept plugs complying with IEC 60083 and IEC 60906-1		N/A
I.10.2	Self-resetting protective devices shall not be used unless it is certain that there will be no hazards		P
	Compliance is checked by connecting the convertor for 48 h at 1.06 times the rated voltage with the output short-circuited		P
I.11	**Creepage distances and clearances**		P
	1. Insulation between input and output circuits:		P
	a) measured values ≥ specified values (mm) ..... :	6,8 mm > limit 6,0 mm (between primary winding and Secondary winding); 6,3 mm > limit 6,0 mm (between components of input and output circuits)	P
	b) measured values ≥ specified values (mm) ..... :		N/A
	c) measured values ≥ specified values (mm) ..... :	Thickness of T1 bobbin: 1,2 mm > limit 1,0 mm	P
	2. Insulation between adjacent input circuits: measured values ≥ specified values (mm) ..... :		N/A
	2. Insulation between adjacent output circuits: measured values ≥ specified values (mm) ..... :		N/A

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict
	3. Insulation between terminals for external connection:		N/A
	a) measured values ≥ specified values (mm) ..... :		N/A
	b) measured values ≥ specified values (mm) ..... :		N/A
	c) measured values ≥ specified values (mm) ..... :		N/A
	4. Basic or supplementary insulation:		P
	a) measured values ≥ specified values (mm) ..... :	4,1 mm > limit 3,0 mm	P
	b) measured values ≥ specified values (mm) ..... :		N/A
	c) measured values ≥ specified values (mm) ..... :		N/A
	5. Reinforced insulation: measured values ≥ specified values (mm) ..... :	6,7 mm > limit 6,0 mm (between the body and live parts)	P
	6. Distande through insulation:		P
	a) measured values ≥ specified values (mm) ..... :		N/A
	b) measured values ≥ specified values (mm) ..... :	1,2 mm > limit 1,0 mm	P
	c) measured values ≥ specified values (mm) ..... :		N/A
	d) measured values ≥ specified values (mm) ..... :		N/A

IEC 61347-2-2			
Clause	Requirement – Test	Result - Remark	Verdict

	CENELEC COMMON MODIFICATIONS (EN)	P

16 (16)	TABLE: creepage distances and clearances	P
	Minimum distances for a.c. (50/60 Hz) sinusoidal voltages	P

RMS working voltage (V) not exceeding			50	150	250	500	750	1000
1 between live parts of different polarity			—	—	4,1 mm (between different polarity)	—	—	—
2 between live parts and accessible metal parts which are permanently fixed to the ballast, including screws or devices for fixing covers or fixing the ballast to its support			—	—	7,6 mm (between components on PCB and the enclosure)	—	—	—
3 for ballasts declared not to rely on the luminaire enclosure for protection against electric shock – between live parts and outer accessible surface of insulating parts			--	--	--	--	--	--
Creepage distances	Basic insulation	PTI≥600	0,6	0,8	1,5	3	4	5,5
		PTI<600	1,2	1,6	2,5	5	8	10
	Supplementary insulation	PTI≥600	--	0,8	1,5	3	4	5,5
		PTI<600	--	1,6	2,5	5	8	10
	Reinforced insulation		--	3,2	5	6	8	11
Clearances	Basic insulation		0,2	0,8	1,5	3	4	5,5
	Supplementary insulation		--	0,8	1,5	3	4	5,5
	Reinforced insulation		--	1,6	3	6	8	11