Bederis Lighting Pty Ltd.

TEST REPORT

Prepared For:	Berdis Lighting (Zhong Shan)Co.,LTD. Floor 6,NO 1.,Huatai east Road,Caosan Industrial Park,Guzhen Town,Zhongshan City,Guangdong Province.
Product Name:	LED Driver
Model :	A03-003-0130-101,A03-003-0130-10,A03-003-0260-101,A03-003-0260-101
Prepared By :	DongGuan Precise Testing Service Co.,Ltd. Building D, Baoding Technology Park, Guangming Road 2, Guangming Community, Dongcheng District, Dongguan, Guangdong, China.
Test Date:	Nov. 27, 2015 - Dec. 10, 2015
Date of Report :	Dec. 10, 2015
Report No.:	PT151127008S

TEST REPORT

IEC 61347-2-13
Part 2: Particular requirements:
Section Thirteen – d.c. or a.c. supplied electronic controlgear for LED modules

Testing Laboratory Name .....:	DongGuan Precise Testing Service Co., Ltd.
Address .....:	Building D, Baoding Technology Park, Guangming Road 2, Guangming Community, Dongcheng District, Dongguan, Guangdong, China.
Testing location .....:	DongGuan Precise Testing Service Co., Ltd.
Applicant's Name .....:	Berdis Lighting (Zhong Shan)Co.,LTD.
Address .....:	Floor 6,NO 1.,Huatai east Road,Caosan Industrial Park,Guzhen Town ,Zhongshan City,Guangdong Province.
Manufacturer ....:	Berdis Lighting (Zhong Shan)Co.,LTD.
Address .... :	Floor 6,NO 1.,Huatai east Road,Caosan Industrial Park,Guzhen Town ,Zhongshan City,Guangdong Province.
Test specification Standard.....:	AS/NZS IEC 61347-2-13:2013 used in conjunction with AS/NZS 61347-1:2002,AS/NZS IEC 60598-1, Ed. 7.0 (2008)
Procedure deviation ..... :	Australia safety approval
Non-standard test method .....:	N/A
Test item description .....:	LED Driver
Trademark ..... :	BDS BERDIS LIGHTING
Model and/or type reference ..... :	A03-003-0260-102
Rating(s)..... :	Input: 200-240Vac, 50/60Hz, 0.25A,24W Output(CC) : 54-78Vdc,260mA

Test case verdicts

Test case does not apply to the test object .. :	N(/A)
Test item does meet the requirement .....:	P(ass)
Test item does not meet the requirement ..... :	F(ail)

General remarks

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

List of Attachments:

Attachment No. 1: Australia and New Nealand deviations according to AS/NZS 61347 .1:2002 and AS/NZS IEC 61347.2.13:2013 compared to IEC 61347-1:2000 and IEC 61347-2-13:2006;

Attachment No. 2: Test report for IEC 60598-1:2008, Australia and New Zealand deviations to IEC 60598-1, Ed. 7.0 (2008).

Attachment No. 3: Photographs of the items tested.

General product information:

These products are LED Drivers, they are constant current output type ,adopted non-dimmable circuit construction.

Difference between models:

1. All the models have similar construction, schematic and components.
2. ta: 45ºC.
3. tc: 75ºC.

Model list details.

Model No.	Rated output voltage(Vd.c.)	Rated output current(mA)	Max.output power (W)
A03-003-0130-101	25-35	130	5
A03-003-0130-102	54-78	130	12
A03-003-0260-101	36-55	260	15
A03-003-0260-102	54-78	260	24

Summary of testing:

The appliances are LED drivers. The test result complies with the requirement of the relevant standard.

The submitted samples were found to comply with the requirements of:

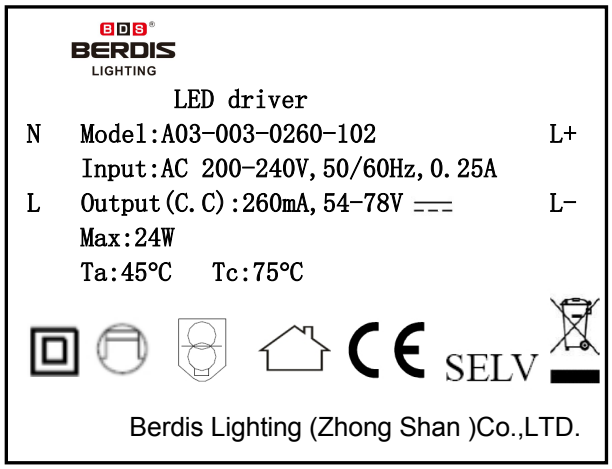
AS/NZS IEC 61347-2-13:2013

AS/NZS 61347-1:2002

IEC 60598-1:2008

Copy of marking plate:

The artwork below may be only a draft.The artwork for other models are the same except for Model and ratings.



Name and address of the testing laboratory :DongGuan Precise Testing Service Co.,Ltd.
Building D, Baoding Technology Park, Guangming Road 2, Guangming Community, Dongcheng District, Dongguan, Guangdong, China.

Test by : Mike chen — Signature — Dec. 10, 2015 — Date

Technician
Title

Review by : Alex.fu — Signature — Dec. 10, 2015 — Date

Project Engineer
Title

Approved by : — Signature — Dec. 10, 2015 — Date

Christ.du / Manager
Name and Title

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
4 (4)	**GENERAL REQUIREMENTS**		P
	Insulation materials according requirements in Annex N of IEC 61347-1	(see Annex N)	P
	Compliance of independent controlgear enclosure with IEC 60598- 1		P
	Built-in magnetic ballast with double or reinforced insulation comply with Annex I of IEC 61347-1		N/A
	Built-in electronic controlgear with double or reinforced insulation comply with Annex O of IEC 61347-1		N/A
	SELV controlgear comply with Annex L of IEC 61347-1	(see Annex L)	N/A
	Independent SELV controlgear comply with Annex I of this part 2	(see Annex I)	P
6 (6)	**CLASSIFICATION**		P
	Built-in controlgear ..... :	Yes☐ No☒	—
	Independent controlgear..... :	Yes☐ No☒	—
	Integral controlgear ..... :	Yes☐ No☒	—
	SELV-equivalent or isolating controlgear ..... :	Yes☐ No☒	—
	Auto-wound controlgear ..... :	Yes☐ No☒	—
	Independent SELV controlgear..... :	Yes☒ No☐	—
7 (7)	**MARKING**		—
7.1 (7.1)	Mandatory markings		P
	a) mark of origin		P
	b) model number or type reference		P
	c) symbol for independent controlgear, if applicable		P
	d) correlation between interchangeable parts and controlgear marked		N/A
	e) rated supply voltage (V)	AC200-240V	P
	supply frequency (Hz)	50/60	P
	supply current (A)	0.25A	P

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
	f) earthing symbol		N/A
	k) wiring diagram		P
	l) value of t_c	75ºC	P
	m) symbol for declared temperature		N/A
	Constant voltage type:	Yes ☐ No ☒	—
	- rated output voltage (V) .....:		N/A
	Constant current type:	Yes ☒ No ☐	—
	- rated output current (A) .....:	See "General product information" for details	P
	- rated maximum output voltage (V) .....:	See "General product information" for details	P
	- indication if for LED modules only		N/A
7.1 (7.2)	Marking durable and legible		P
	Rubbing 15 s water, 15 s petroleum; marking legible		P
7.2 (7.1)	Information to be provided, if applicable:		P
	h) declaration on protection against accidental contact		N/A
	i) cross-section of conductors (mm²)	Input: 2x0.5mm² Output: 2x0.3mm²	P
	j) number, type and wattage of lamp(s)	Indicated in user manual	P
	- declaration of mains connected windings		N/A
	- declaration for SELV-equivalent controlgear	See product specification	P

8 (10)	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		P
- (10.1)	Controlgear protected against accidental contact with live parts		P
- (A2)	Voltage measured with 50 kΩ	(see Annex A)	P
- (A3)	Voltage > 35 V r.m.s. or > 60 V d.c. or protective impendance device	58V d.c	N/A
- (10.1)	Lacquer or enamel not used for protection or insulation		P

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
	Adequate mechanical strength on parts providing protection		P
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V ..... :	0V after 1min.	P
- (10.3)	Controlgear providing SELV		P
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV controlgear		P
	No connection between output circuit and the body or protective earthing curcuit		P
	No possibility of connection between output circuit and the body or protective earthing circuit through other conductive parts		P
	SELV outputs separated by at least basic insulation		N/A
	ELV conductive parts insulated as live parts		N/A
	Tests according Annex L of IEC 61347-1		P
- (10.4)	Accessible conductive parts in SELV circuits		P
	Output voltage under load ≤ 25 V r.m.s. or ≤ 60 V d.c.	Output voltage under load: 58V	P
	If output voltage > 25 V r.m.s. or > 60 V d.c.; No load output ≤ 35 V peak or ≤ 60 V d.c and touch current does not exceed 0,7 mA (peak) or 2 mA d.c. ..... :		N/A
	One conductive part is insulated if output voltage or current exceeding the values above and withstand test voltage 500 V		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor	Approved Y1 capacitor (CY1) used between primary and output circuit.	P
	Y1 or Y2 capacitors comply with IEC 60384-14		P
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
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		P

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
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	Output voltage under load: 58V.dc	N/A
	Insulated terminals if convertor with rated output voltage > 25 V	No exposed terminals or accessible conductive parts.	N/A
	One capacitor Y1 or two capacitors Y2 complying with IEC 60384-14 of the same values used in series between SELV or SELV-equivalent output and primary circuits	Approved Y1 capacitor (CY1) used between primary and output circuit.	P
	Other components bridging the separating transformer complying with IEC 60065, clause 14		N/A
9 (8)	**TERMINALS**		P
	Screw terminals according section 14 of IEC 60598-1:		N/A
	Separately approved; component list		N/A
	Part of the controlgear		N/A
	Screwless terminals according section 15 of IEC 60598-1:		P
	Separately approved; component list	(see Annex 1)	P
	Part of the controlgear		N/A
10 (9)	**PROVISION FOR PROTECTIVE EARTHING**		—
- (9.1)	Provisions for protective earthing		N/A
	Terminal complying with clause 8		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

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
	Made of brass or equivalent material		N/A
	Contact surface bare metal		N/A
- (9.2)	Provision for functional earthing		N/A
	Comply with clause 8 and 9.1		N/A
- (9.3)	Earth contact via the track on the printed board		N/A
	Test with a current of 25 A between earthing terminal and each of the accessible metal parts; measured resistance (Ω) at ≥ 10 A according 7.2.3 of IEC 60598-1: < 0,5 Ω .....:		N/A
- (9.4)	Earthing of built-in lamp controlgear		N/A
	Earth by means of fixing to earthed metal of luminaire in compliance of 7.2 of IEC 60598-1		N/A
	Earthing terminal only for earthing the built-in controlgear		N/A
- (9.5)	Earthing via independent controlgear		N/A
- (9.5.1)	Earth connection to other equipment		N/A
	Looping or through connection, conductor min. 1,5 mm² and of copper or equivalent		N/A
	Protective earthing wires in line with 5.3.1.1 and clause 7		N/A
- (9.5.2)	Earthing of the lamp compartments powered via the independent lamp controlgear		N/A
	Test with a current of 25 A between input and output earth terminals; measured resistance (Ω) between earthing terminal and each of the accessible metal parts at ≥ 10 A according 7.2.3 of IEC 60598-1: < 0,5 Ω .....:		N/A
	Output earthing terminal marked as in 7.1 t) of IEC 61347-1		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):		P
	For basic insulation ≥ 2 MΩ .....:	L-N: >100MΩ Fuse terminal: >100MΩ	P

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
	For double or reinforced insulation ≥ 4 MΩ .....:	Between input and output circuit: >100MΩ Between hazardous live part and enclosure: >100MΩ	P
	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1		P
11 (-)	Adequate insulation between input and output terminals not bounded together in SELV-equivalent controlgear	Between input and output circuit: >100MΩ	P
12 (12)	**ELECTRIC STRENGTH**		P
	Immediately after clause 11 electric strength test for 1 min		P
	Basic insulation for SELV, test voltage 500 V		N/A
	Working voltage ≤ 50 V, test voltage 500 V		N/A
	Working voltage > 50 V ≤ 1000 V, test voltage (V):		P
	Basic insulation, 2U + 1000 V	L and N (fuse open): 1480V	P
	Supplementary insulation, 2U + 1000 V		N/A
	Double or reinforced insulation, 4U + 2000 V	Input and output/enclosure: 2960V	P
	No flashover or breakdown		P
	Solid or thin sheet insulation for double or reinforced insulation fulfil the requirements in Annex N in IEC 61347-1		P
12 (-)	Windings in separating transformers in SELV-equivalent convertors according to 14.3.2 of IEC 60065		N/A
14 (14)	**FAULT CONDITIONS**		**P**
- (14)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	P
- (14.1)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (except between live parts and accessible metal parts)	(see appended table)	P
	Creepage distances on printed boards less than specified in clause 16 in Part 1 provided with coating according to IEC 60664- 3		P
- (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		N/A
- (14.4)	Short-circuit across electrolytic capacitors	(see appended table)	P
- (14.5)	After the tests has been carried out on three samples:		P
	The insulation resistance ≥ 1 MΩ ..... :	Between input and output: >100 MΩ; Between hazardous live part and enclosure: >100 MΩ	P
	No flammable gases		P
	No accessible parts have become live		P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.6)	Relevant fault condition tests with high-power supply		—
14 (-)	Temperature declared thermally protected lamp controlgear fulfil requirements in Annex C		N/A

15 (-)	**TRANSFORMER HEATING**		P
	Windings of separating transformer in a SELV-equivalent controlgear fulfil the requirements according to 7.1 and 11.2 of IEC 60065		P
15.1 (-)	Normal operation		P

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
	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	(see appended table)	P
15.2 (-)	Abnormal operation		P
	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		P
	Ambient temperature at t_c ..... :	(see appended table)	—

16 (-)	**ABNORMAL CONDITIONS**		P
16.1 (-)	Control gear which are of the constant voltage output type:		N/A
	a) No LED module inserted		N/A
	b) Double LED modules or equivalent load connected to the output terminals		N/A
	c) Output terminal short-circuited (20 cm and 200 cm or declared length)		N/A
	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced		N/A
16.2 (-)	Control gear which are of the constant current output type		P
	a) No LED module connected	There is no output power while no LED module is inserted.	P
	b) Double the LED modules or equivalent load connected in series to the output terminals	Protective circuit operated after double number of LED module.	P
	c) Output terminal short-circuited (20 cm and 200 cm or declared length)	Protective circuit operated after the output terminal short-circuited.	P
	Maximum output voltage not exceeded		P
	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced		P

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
17 (15)	**CONSTRUCTION**		P
- (15.1)	Wood, cotton, silk, paper and similar fibrous material		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
- (15.2)	Printed circuits		P
	Printed circuits used as internal connections complies with clause 14		P
- (15.3)	Plugs and socket-outlets used in SELV or ELV circuits		N/A
	No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies		N/A
	Plugs and socket-outlets for SELV comply with IEC 60906-3 and IEC 60884-2-4		N/A
	Plugs and socket-outlets for SELV ≤ 3 A, ≤ 25 V r.m.s. or ≤ 60 V d.c. and ≤ 72 W comply with IEC 60906-3 and IEC 60884-2-4 or:		N/A
	- plugs not able to enter socket-outlets of other standardised system		N/A
	- socket-outlets not admit plugs of other standardised system		N/A
	- socket-outlets without protective earth		N/A
17 (-)	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
- (16)	Creepage distances and clearances according to Table 3 and 4, as appropriate	(see appended table)	P
	Controlgears providing SELV comply with L.1 in Annex L		P
	Insulating lining of metallic enclosures		N/A
	Basic insulation on printed boards tested according to clause 14		N/A

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
	Distances subjected to both sinusoidal voltage as non-sinusoidal pulses not less than value in either Table 3 or 4		P
	Creepage distances not less than minimum clearance		P
19 (17)	**SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS**		P
	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:		P
	- self-tapping screws		P
	- thread- cutting screws		P
(4.11.3)	Screw locking:		P
	- spring washer		N/A
	- rivets		P
(4.11.4)	Material of current-carrying parts		P
(4.11.5)	No contact to wood or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		N/A
(4.12)	Mechanical connections and glands		N/A
(4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:		N/A
(4.12.2)	Screws with diameter < 3 mm screwed into metal	Screw for enclosure: Φ3.0 mm, 0.5 Nm.	P
(4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm)..... :		N/A
	- lampholder; torque (Nm).....:		N/A
	- push-button switches; torque 0,8 Nm..... :		N/A
(4.12.5)	Screwed glands; force (Nm)..... :		N/A

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
20 (18)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		**P**
- (18.1)	Ball-pressure test:		P
	- part tested; temperature (°C)..... :	T1 bobbin: 125°C, 1.0mm. PCB: 125°C, 1.2mm.	P
	- part tested; temperature (°C)..... :	Plastic enclosure: 90°C, 1.0mm	P
- (18.2)	Test of printed boards:	UL approved PCB used	P
	- part tested..... :	PCB	P
- (18.3)	Glow- wire test (650°C):		P
	- part tested..... :	Plastic enclosure	P
	- part tested..... :		N/A
- (18.4)	Needle flame test (10 s):		P
	- part tested..... :	PCB	P
	- part tested..... :	T1 bobbin	P
- (18.5)	Tracking test:		N/A
	- part tested..... :		N/A

21 (19)	**RESISTANCE TO CORROSION**		N/A
	- test according 4.18.1 of IEC 60598-1		N/A
	- adequate varnish on the outer surface		N/A

14	**TABLE: tests of fault conditions**	**P**
Part	Simulated fault	Hazard
A03-003-0260-102		
DB1pin1-2 S/C	DB1damaged,fuse opened	NO
C6 S/C	LF2 damaged, fuse opened	NO
T1 pin 1-10 S/C	Circuit protected, recoverable	NO
U1 pin 6-7 S/C	DB1 damaged	NO
U1 pin 6-3 S/C	R7,R8 damaged	NO
U1 pin 3-7 S/C	Circuit protected, recoverable	NO
D2 S/C	Circuit protected, unrecoverable	NO

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
Output S/C	Circuit protected, recoverable		NO
Remark: S/C means short-circuit.			

18 (16)	**TABLES: Creepage distances and clearances**					**P**
Table 3	**Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages**					**--**
RMS working voltage (V) not exceeding	50	150	250	500	750	1000
Creepage distances						
Required basic insulation, PTI ≥ 600	0,6	0,8	1,5	3	4	5,5
Measured	--	--	--	--	--	--
Required basic insulation, PTI < 600	1,2	1,6	**2,5**	5	8	10
Measured	--	--	2.8 (L-N before fuse) 3.0 (fuse terminal)	--	--	--
Required supplementary insulation PTI ≥ 600	-	0,8	1,5	3	4	5,5
Measured	--	--	--	--	--	--
Required supplementary insulation PTI < 600	-	1,6	2,5	5	8	10
Measured	--	--	--	--	--	--
Required reinforced insulation	-	3,2	**5**	6	8	11
Measured	--	--	6.5 (two ends of Y-cap) 7.7 (T1 core to secondary component)	--	--	--
Clearances						

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict

Required basic insulation	0,2	0,8	**1,5**	3	4	5,5
Measured	--	--	2.8 (L-N before fuse) 3.0 (fuse terminal)	--	--	--
Required supplementary insulation	-	0,8	1,5	3	4	5,5
Measured	--	--	--	--	--	--
Required reinforced insulation	-	1,6	**3**	6	8	11
Measured	--	--	6.5 (two ends of Y-cap) 7.7 (T1 core to secondary component)	--	--	--

Table 4	**Minimum distances (mm) 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 clearances	1,0	1,5	2	3	4	5,5	8
Measured	--	--	--	--	--	--	--
Rated pulse voltage (peak kV)	10	12	15	20	25	30	40
Required clearances	11	14	18	25	33	40	60
Measured	--	--	--	--	--	--	--
Rated pulse voltage (peak kV)	50	60	80	100	-	-	-
Required clearances	75	90	130	170	-	-	-
Measured	--	--	--	--	--	--	--
Remark:							

A	**ANNEX A - TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK**		P
A.1	Comply with A.2 or A.3		P
A.2	Voltage ≤ 35 V peak or ≤ 60 V d.c .....:	58Vdc	P

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
A.3	If voltage > 35 V r.m.s. or > 60 V d.c. or protective impendance device; touch current does not exceed 0,7 mA (peak) or 2 mA d.c. .....:		N/A
	Comply with Annex G of IEC 60598-1		N/A
C	**ANNEX C – PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROLGEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING**		—
C3	**GENERAL REQUIREMENTS**		N/A
C3.1	Thermal protection means integral with the convertor, protected against mechanical damage		N/A
	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)		N/A
C5	**CLASSIFICATION**		N/A
	a) automatic resetting type		—
	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**		N/A
C6.1	Symbol for temperature declared thermally protected ballasts		N/A
C6.2	Declaration of the type of protection provided		N/A
C7	**LIMITATION OF HEATING**		N/A
C7.1	Preselection test:		N/A
	Test sample placed for at least 12 h in an oven having temperature (t_c - 5) K		N/A
	No operation of the protection device		N/A

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
C7.2	Functioning of protection means:		N/A
	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		N/A
	No operation of the protection device		N/A
	Introducing of the most onerous test condition determined during test of clause 14		N/A
	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		N/A
	Continuous measuring of the highest surface temperature		N/A
	Ballasts according to C5 a) or C5 e) operated until stable conditions are achieved		N/A
	Automatic-resetting thermal protectors working 3 times		N/A
	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		N/A
	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**		—
	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_w TESTS**		—
	Comply with tests according Annex E		N/A

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
F	**ANNEX F - DRAUGHT-PROOF ENCLOSURE**		N/A
	Draught-proof enclosure in accordance with the description		N/A
	Dimensions of the enclosure		N/A
	Other design; description		N/A
H	**ANNEX H - TESTS**		P
	All tests performed in accordance with the advice given in Annex H, if applicable		P
I	**ANNEX I: PARTICULAR ADDITIONAL REQUIREMENTS FOR INDEPENDENT SELV D.C. OR A.C. SUPPLIED ELECTRONIC CONTROLGEAR FOR LED MODULES** (Although max. output voltage of models exceed 120VDC, requirement according to annex I is also considered.)		P
I.3	**Classification**		P
I.3.1	Class I	Yes ☐ No ☒	—
	Class II	Yes ☒ No☐	—
I.3.2	a) non-inherently short circuit proof controlgear	Yes ☒ No ☐	—
	b) non-inherently open circuit proof controlgear	Yes ☐ No ☒	—
	c) inherently short circuit proof controlgear	Yes ☐ No ☒	—
	d) inherently open circuit proof controlgear	Yes ☐ No ☒	—
	e) fail safe controlgear	Yes ☐ No ☒	—
	f) non-short-circuit proof controlgear	Yes ☐ No ☒	—
	g) non-open-circuit proof controlgear	Yes ☐ No ☒	—
I.4	**Marking**		P
	Adequate symbols are used		P
I.5	**Protection against electric shock**		P
I.5.1	No connection between output winding and body		P
	No connection between output winding and protective earthing circuit		N/A

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
I.5.2	Input and output circuits electrically separated from each other		P
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		N/A
I.5.2.3	Serrated tape, additional layer		N/A
I.5.2.4	Class I controlgear 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		P
	Winding held together by means of insulating material		P

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
I.5.3	Components bridging between input and output circuit		P
I.5.3.1	Used capacitors and resistors comply with 8.2	Approval capacitors used	P
I.5.3.2	Used opto-couplers comply with 2.10.5.2 of IEC 60950-1 or 0,4 mm and test in I.8		N/A
I.6	**Heating**		P
I.6.1	No excessive temperatures in normal use		P
	Used material classified as Class .....:	For transformer: class F	—
	Stated value of t_a .....:	45ºC	—
I.6.2	Temperature rises (Upri: 1.06 time supply rated voltage)		P
	Determined temperature rises in windings: - Primary (K) .....: - Limit max (K) .....: - Secondary (K) .....: - Limit max (K) .....:	(see appended table I.6)	P
	After the test:		P
	- no connections have worked loose		P
	- no reduction of creepage distances and clearances		P
	- no flow of sealing compound		P
	- no operation of protecting devices		P
	- electric strength test between input and output windings	3750V	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 ≥ 2, 4 or 5 MΩ		N/A
	- dielectric strength test for 2 min. at 35 % of specified value in table I.6		N/A
	- Current or the ohmic component does not deviates by more than 30 %		N/A

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
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 (V) .....:	264V	P
I.7.2 I.7.3 I.7.4	Determined temperature rise in windings and on other parts:		P
	- test according to Clause .....:	Clause I.7.3	P
	- Primary winding (K) .....:	(see appended table I.7)	P
	- Limit max (K) .....:	(see appended table I.7)	P
	- Secondary winding (K) .....:	(see appended table I.7)	P
	- Limit max (K) .....:	(see appended table I.7)	P
	- External enclosure < 80 (K) .....:	(see appended table I.7)	P
	- Rubber insulation of wiring < 60 (K).....:		N/A
	- PVC insulation of wiring < 60 (K) .....:		N/A
	- Supports < 80 .....:	(see appended table I.7)	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 %	25°C; 93%R.H.	P

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
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 .....:	Between input and enclosure: >100 MΩ	P
	Input- and output circuits not less than 5 MΩ .....:	Between input and output: >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 .....:		N/A
I.8.3	Electric strength test:		P
	1) Between live parts of input circuits and live parts of output circuits .....:	3750V	P
	2) Over basic or supplementary insulation between:		P
	a) live parts which are or may become of different polarity .....:	L/N without fuse: 1480V	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 .....:	3750V	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 .....:		P
I.10	**Components**		—
I.10.1	Socket-outlets in the output circuit does not accept plugs complying with IEC 60083 and IEC 60906-1		N/A

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
I.10.2	Self-resetting protective devices shall not be used unless it is certain that there will be no hazards		N/A
	Compliance is checked by connecting the convertor for 48 h at 1.06 times the rated voltage with the output short-circuited		N/A
I.11	**Creepage distances and clearances**		**P**
	1. Insulation between input and output circuits:		P
	a) measured values > specified values (mm) .....:		P
	b) measured values > specified values (mm) .....:		N/A
	c) measured values > specified values (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
	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) .....:	L-N before fuse: 3.2mm > 2.5mm Fuse terminal: 3.4mm > 2.5mm	P
	b) measured values > specified values (mm) .....:		N/A
	c) measured values > specified values (mm) .....:		N/A
	d) measured values > specified values (mm) .....:		N/A
	e) measured values > specified values (mm) .....:		N/A
	5. Reinforced insulation: measured values > specified values (mm) .....:		P
	6. Distance through insulation:		N/A
	a) measured values $\geq$ specified values (mm) .....:		N/A
	b) measured values > specified values (mm).....:		N/A

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
	c) measured values > specified values (mm)..... :		N/A
	d) measured values > specified values (mm)..... :	Plastic enclosure thickness: 1.5mm min.	P

L	**ANNEX L: PARTICULAR ADDITIONAL REQUIREMENTS FOR CONTROLGEARS PROVIDING SELV** (IEC 61347-1) *(Although max. output voltage of models exceed 120VDC, requirement according to annex L is also considered.)*		N/A
L.3	**Classification**		N/A
	Class I	Yes ☐ No ☒	—
	Class II	Yes ☒ No ☐	—
	Class III	Yes ☐ No ☒	—
	non-inherently short circuit proof controlgear	Yes ☒ No ☐	—
	inherently short circuit proof controlgear	Yes ☐ No ☒	—
	fail safe controlgear	Yes ☐ No ☒	—
	non-short-circuit proof controlgear	Yes ☐ No ☒	—
L.4	**Marking**		N/A
	Adequate symbols are used		N/A
L.5	**Protection against electric shock**		N/A
	Comply with 9.2 of IEC 61558-1		N/A
L.6	**Heating**		N/A
	No excessive temperatures in normal use		N/A
	Value if capacitor t_c marked ..... :	See “ANNEX 1: components”	—
	Winding insulation classified as Class ..... :	See “ANNEX 1: components”	—
	Comply with tests of clause 14 of IEC 61558-1 with adjustments	See appended table	N/A
L.7	**Short-circuit and overload protection**		N/A
	Comply with tests of clause 15 of IEC 61558-1 with adjustments	See appended table	N/A
L.8	**Insulation resistance and electric strength**		N/A
L.8.1	Conditioned 48 h between 91 % and 95 %		N/A
L.8.2	Insulation resistance		N/A

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
	Between input- and output circuits not less than 5 MΩ ..... :		N/A
	Between 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
	Between metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 MΩ ..... :		N/A
L.8.3	Electric strength		N/A
	1) Between live parts of input circuits and live parts of output circuits .....:		N/A
	2) Over basic or supplementary insulation between:		N/A
	a) live parts having different polarity .....:		N/A
	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
	f) each input circuit and all other input circuits ....:		N/A
	3) Over reinforced insulation between the body and live parts .....:		N/A
L.9	**Construction**		—
L.9.1	Transformer comply with 19.12 of IEC 61558-1 and 19 of IEC 61558-2-6		N/A
	HF transformer comply with 19 of IEC 61558-2-16		N/A
L.10	**Components**		—
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1		N/A
L.11	**Creepage distances and clearances**		N/A
	1. Insulation between input and output circuits, basic insulation:		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

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
	2. Insulation between input and output circuits, double or reinforced insulation:		N/A
	a) measured values ≥ specified values (mm) ..... :	(see appended table L.11)	N/A
	b) measured values ≥ specified values (mm) ..... :		N/A
	c) measured values ≥ specified values (mm) ..... :	See appended table	N/A
	3. Insulation between adjacent input circuits		N/A
	- measured values ≥ specified values (mm) ..... :		N/A
	3. Insulation between adjacent output circuits		N/A
	- measured values ≥ specified values (mm) ..... :		N/A
	4. Insulation between terminals for external connection:		N/A
	- measured values ≥ specified values (mm) ..... :		N/A
	5. Basic or supplementary insulation:		N/A
	a) measured values ≥ specified values (mm) ..... :	(see appended table L.11)	N/A
	b) measured values ≥ specified values (mm) ..... :		N/A
	c) measured values ≥ specified values (mm) ..... :		N/A
	d) measured values ≥ specified values (mm) ..... :		N/A
	e) measured values ≥ specified values (mm) ..... :		N/A
	6. Reinforced insulation or insulation:		N/A
	Between body and output circuit: measured values ≥ specified values (mm) .....:	See appended table	N/A
	Between body and output circuit if provision against transient voltages: measured values ≥ specified values (mm) .....:		N/A
	7. Distance through insulation:		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

N	**ANNEX N: REQUIREMENTS FOR INSULATION MATERIALS USED FOR DOUBLE OR REINFORCED INSULATION** (IEC 61347-1)		P
N.4	**General requirements**		P
N.4.1	Material comply with IEC 60085 and IEC 60216 series		N/A

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict
N.4.2	Solid insulation		N/A
	Electric strength test at least 5 kV or 1,35 x test voltage in Table N.1		N/A
	If not classified according IEC 60085 and IEC 60216 series: Electric strength test increased 10 % of 5,5 kV or 1,5 x test voltage in Table N.1		N/A
N.4.3	Thin sheet insulation		P
N.4.3.1	Thickness and composition of thin sheet insulation		P
	- Inside the ballast and not subjected to handling or abrasion during the production and during maintenance	Insulation tape	P
	- Non-separated layers: Min. 3 layers and fulfil mandrel test of 150N		N/A
	- Separated layers: Min. 2 layers and each layer fulfil mandrel test of 50N		N/A
	- Separated layers (alternative): Min. 3 layers and 2/3 of the layers fulfil mandrel test of 100N		P
N.4.3.2	Mandrel test (electric strength test during mechanical stress)		P
	Electric strength test after mandrel test:		P
	- Non-separated layers: min. 5 kV or 1,35 x test voltage in Table N.1		N/A
	- 2/3 of min. 3 separated layers: min. 5 kV or 1,25 x test voltage in Table N.1	5000V	P
	- one of 2 separated layers: min. 5 kV or 1,25 x test voltage in Table N.1		N/A
	No flashover or breakdown occurred		P
O	**ANNEX O: ADDITIONAL REQUIREMENTS FOR BUILT-IN ELECTRONIC CONTROLGEAR WITH DOUBLE OR REINFORCED INSULATION** (IEC 61347-1)		—
O.6	**Marking**		—
	Marking according clause 7 (7)	See clause 7	N/A
	Special symbol		N/A
	Meaning of the special symbol explained in catalogue		N/A

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict

O.7	**Protection against accidental contact with live parts**		—
	Requirements of clause 8 (10)	See clause 8	N/A
	Test finger not possible to make contact with basic insulated metal parts		N/A
O.8	**Terminals**		—
	Clause 9 (8)	See clause 9	N/A
O.9	**Provision for earthing**		—
	Functional earthing terminals comply with clause 9 of part 1		N/A
	No protective earthing terminal		N/A
O.10	**Moisture resistance and insulation**		—
	Clause 11 (11)	See clause 11	N/A
O.11	**Electric strength**		—
	Clause 12 (12)	See clause 12	N/A
O.13	**Fault conditions**		—
	Clause 14 (14)	See clause 14	N/A
	End of test, between live part and accessible metal parts or external parts of insulating material in contact with the supporting surface comply with dielectric strength test reduced to 35 % of values according Table 1 in part 1		N/A
	Insulation resistance according to O.10 between live part and accessible metal parts or external parts of insulating material in contact with the supporting surface not less than 4 MΩ		N/A
O.14	**Construction**		—
	Clause 17 (15)	See clause 17	N/A
	Accessible metal parts insulated from live parts by double or reinforced insulation		N/A
	Live part insulated from supporting surface in contact with external faces by double or reinforced insulation		N/A
O.15	**Creepage distances and clearances**		—
	Clause 18 (16)	See clause 18	N/A

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict

	Comply with corresponding values for luminaries in IEC 60598-1		N/A
O.16	**Screws, current-carrying parts and connections**		—
	Clause 19 (17)	See clause 19	N/A
O.17	**Resistance to heat and fire**		—
	Clause 20 (18)	See clause 20	N/A
O.18	**Resistance to corrosion**		—
	Clause 21 (19)	See clause 21	N/A

I.6 (L.6)	**TABLE: Heating - normal operation**		P
	ta (°C)..... :	45	—
	Lamp used..... :	LED modules	—
	Mounting position..... :	As in normal use	—
	Test voltage(V)..... :	A: 188V/60Hz; B: 254.4V/50Hz	—

Model A03-003-0260-102	A: T1 winding (K /°C)	B: T1 winding (K /°C)	Limit (K /°C)
T1 coil, Class F	130.5	131.6	155
T1 core, Class F	128.4	129.1	155
Y capacitor (MOV1), T125	90.5	90.3	125
L1, T105	99.2	99.8	105
C2, T105	98.6	98.9	105
U1, T105	118.9	119.5	125
PCB	94.8	95.1	130
Tc	71.7	72.1	75
Ambient	45.0	45.0	--

I.7 (L.7)	**TABLE: Heating - abnormal operation (short-circuit and over-loads)**			P
	Type reference:	A03-003-0260-102		—
	Mounting position:	As in normal use		—
		Test condition		
		180V/60Hz	264VAC/50Hz	
temperature of part		Measured (K /°C)	Measured (K /°C)	Limit (K /°C)

Transformer coil (T1), class F	139.5	141.2	165
Enclosure outside above T1	76.3	72.6	105
Support under T1	99.9	91.9	105
Ambient	45.0	45.0	--
Remark: The unit shut down immediately when output shorted.			

L.11	**TABLES: Creepage distances and clearances measurement**	**P**

creepage distance Cr. and clearance Cl. at/of:	**Up (V)**	**U rms. (V)**	**Table**		**Measured**		**Required in table I.7**		**Required in table L.5**	
			I.7	**L.5**	**Cl. (mm)**	**Cr. (mm)**	**Cl. (mm)**	**Cr. (mm)**	**Cl. (mm)**	**Cr. (mm)**
Basic Insulation										
L and N on PCB	--	240	--	5a	3.2	3.2	--	--	1.5	2.5
Two end of fuse	--	240	--	5a	3.4	3.4	--	--	1.5	2.5
Supplementary Insulation										
--	--	--	--	--	--	--	--	--	--	--
Reinforced or Double Insulation										
DTI (Distance through insulation)										

DTI at/of:	**Up (V)**	**U rms. (V)**	**Table**		**Measured**		**Required in table I.7 DTI (mm)**	**Required in table L.5 DTI (mm)**
			I.7	**L.5**	**DTI (mm)**	**Layers**		
Supplementary insulation								
--	--	240	--	7b			--	--
Reinforced insulation								
Insulation tape between transformer core and secondary components	--	240	1c	2c	0.2	4	0.2 [25VA≤output≤ 100VA]	0.17 [25VA≤ output≤100VA]

Remark:
1. Above limits are considered under normal pollution and PTI < 600 condition.
2. Minimum measured value recorded.
3. Measured max. working voltage: ≤240VRMS.

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict

	ANNEX 1: components	**P**

object/part No.	code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
PCB	B	GOLDENMAX INTERNATIONAL TECHNOLOGY LTD	ILM-R1	V-0, 130℃	UL 94	UL: E224772
(Alt.)	D	Guangzhou Junze Electronics Technology Co., Ltd	JZ-D,JZ-M	V-0, 130℃	UL 94	UL:E330831
(Alt.)	D	HUIZHOU HANJING ELECTRONICS CO LTD	HJ002	V-0, 130℃	UL 94	UL:E353304
Fuse (F1)	B	DONG GUAN ANDU ELECTRONICS CO LTD	2T71000	250V，1.0A	IEC 60127-1, IEC 60127-3	UL:317400
MOV-1,MOV-2	B	HONGZHI ENTERPRISES LTD	HEL7D471	470V，-20-+85°C	IEC 61051-1 IEC 61051-2	UL:E324904
(Atl.)	D	Shantou High-new Zone Songtian Technology Enterprise Co., Ltd	STE-07D471K	10A AC420V	IEC 60384-14	VDE:40023049
Inductor(L1)	B	ZHONGSHAN CITY CHENGZHI ELECTRONIC FACTORY	PK0810-472K-S0	0.26A，4.7mH	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Transformer (T1)	B	DONG GUAN YIDA INDUSTRIAL CO LTD	TREE13-012HR	0.6mH,N1: 40TS,N2:140TS	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
-Pri-winding of transformer	B	DONG GUAN YIDA INDUSTRIAL CO LTD	UEW/155	155°C	UL 1446	UL,E344055
-Bobbin	B	CHANG CHUN PLASTICS CO LTD	T375J	150°C，V-0	UL 94	UL:E136137

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict

Tape	B	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT-280B	130°C， V0	UL510	UL: 165111
Plastic enclosure	B	CHI MEI CORPORATION	PA-765A(+)	V-1，85℃，1.5mm	UL94	UL:E56070
Supply cord	B	NINGBO QIAOPU ELECTRIC CO.,LTD	H03VVH2-F	2 x 0.5mm²	AS/NZS 3191: 2003	Fair Trading N18298
(Alt.)	D	Da zheng wire & cable Mfg Ltd.	H03VV-F	300/500V,2X0.75MM²,	AS/NZS 60227.5:2003 A	NSW25492 /1
Internal Wires	B	NIZING ELECTRIC CO.,LTD	UL1015	0.3mm², 300V，105℃，VW-1	EN 60598-2-2; EN 60598-1	Tested with appliance

The codes above have the following meaning:

A - The component is replaceable with another one, also certified, with equivalent characteristics

B - The component is replaceable if authorised by the test house

C - Integrated component tested together with the appliance

D - Alternative component

	ANNEX 2: screw terminals (part of the luminaire)		N/A
(14)	**SCREW TERMINALS**		N/A
(14.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm²).....:		N/A
(14.3.3)	Conductor space (mm).....:		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread):		N/A

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm).....:		N/A
	Torque (Nm).....:		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N).....:		N/A
(14.4.8)	Without undue damage		N/A

	ANNEX 3: screwless terminals (part of the luminaire)		N/A
(15)	**SCREWLESS TERMINALS**		
(15.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5)	Terminals and connections for internal wiring		N/A
(15.5.1)	Mechanical tests		N/A
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples)….:		N/A

IEC 61347-2-13			
Clause	Requirement – Test	Result – Remark	Verdict

(15.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples)……:		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.6)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples)..... :		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles.....:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples)..... :		N/A
(15.7)	Terminals external wiring		N/A
	Terminal size and rating		N/A
(15.8.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N) .....:		N/A
	Pull test pin or tab terminals (4 samples); pull (N) .....:		N/A
(15.9)	Contact resistance test		N/A
	Voltage drop (mV) after 1 h		N/A

terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—

	Voltage drop of two inseparable joints		N/A
	Voltage drop after 10th alt. 25th cycle		N/A
	Max. allowed voltage drop (mV).....:		—

terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—

	Voltage drop after 50th alt. 100th cycle		N/A
	Max. allowed voltage drop (mV).....:		—

IEC 61347-2-13

Clause	Requirement – Test	Result – Remark	Verdict

terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—
	Continued ageing: voltage drop after 10th alt. 25th cycle									N/A
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—
	Continued ageing: voltage drop after 50th alt. 100th cycle									N/A
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—

Attachment No. 1

	Variations to IEC61347-1:2000 for application in Australia and/or New Zealand(AS/NZS 61347.1:2002)		
Clause	Requirement-Test	Result-Remarks	Verdict
5	For Australia, the rated supply voltage is 230 V/400 V	Rated supply voltage:200-240V	P
	For Australia,the rated test voltage shall be 240 V/415 V	Rated test voltage:240V	P
8	Terminals, cables and cords		-
	Cables and cords shall comply with the relevant requirements of Section 5 of AS/NZS 60598.1.		P
9	Provisions for protective earthing		-
9.1	After the test, the requirements of AS/NZS 60598.1, sub-clause 7.2.3 shall apply.		N/A
18.2	Parts of insulating material shall be resistant to flame and ignition.		P
18.2.1	glow-wire (750 °C).		P
	-part tested	PCB and bobbin of T1,no flame ,no drop	P
	-part not tested		N/A
18.2.2	glow-wire (650 °C).		P
	-part tested	Plastic of enclosure	P
	-part not tested		N/A
18.2.3	Needle flame test(duration of the flame or 30 s).		N/A
	-part tested		N/A
	-part not tested		N/A

Attachment No. 1

	SPECIAL NATIONAL CONDITIONS VARIATIONS TO IEC 61347-2-13 FOR AUSTRALIA AND NEW ZEALAND(AS/NZS IEC 61347.2.13:2013)		
Clause	Requirement - Test	Result - Remarks	Verdict
ZZ	Appendix ZZ: Variations to IEC 61347-2-13:2006 for Australia and New Zealand		—
4	**GENERAL REQUIREMENTS**		—
	Where the control gear has accessible outputs, the control gear shall be - SELV outputs, and - comply with Annex I	SELV Control gear	P
	SELV equivalent is not permitted, where		N/A
	Control gear has accessible outputs		N/A
	Control gear is classified as independent SELV		N/A
8	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		—
8.2	Output circuits of SELV control gear with accessible outputs		P
	Output voltage under load ≤ 25 V r.m.s. or ≤ 60 V d.c.		P
	If output voltage > 25 V r.m.s. or > 60 V d.c.		N/A
	a) touch current does not exceed 0,7 mA (peak) or 2 mA d.c. ..... :		N/A
	b) the no load output shall not exceed 33 √2 V peak or 60 V d.c.		N/A
	The requirements are applicable for each of the rated supply voltages.		N/A
	Control gear with an output greater than the limits above shall have insulated terminals.		N/A
	The touch current is checked by measurement in accordance with Annex G of IEC 60598-1		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor		N/A
	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
9	**TERMINALS**		—
9.1	Direct plug-in control gear		N/A

Attachment No. 1

	SPECIAL NATIONAL CONDITIONS VARIATIONS TO IEC 61347-2-13 FOR AUSTRALIA AND NEW ZEALAND(AS/NZS IEC 61347.2.13:2013)		
Clause	Requirement - Test	Result - Remarks	Verdict
	Plug-in control gear with pins for direct insertion into a socket-outlet shall comply with Appendix J of AS/NZS 3112:2011.		N/A
16.2	Control gear which are of the constant current output type		P
	d) For control gear with SELV output, the LED modules, or equivalent load for which the control gear is designed, shall continue to be connected in series incrementally to the output terminals until the control gear ceases to operate or the output voltage is stabilized.		P
	During the tests under d), the maximum voltage measured on the output terminal shall not exceed the SELV limits of clause 8.		P

Attachment No. 2

4	CONSTRUCTION		P
4.13	Mechanical strength		P
4.13.1	Impact tests:		P
	- fragile parts; energy(Nm)..... :		N/A
	- other parts; energy (Nm)..... :	Enclosure: 0.5Nm	P
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		P
4.13.3	Straight test finger	30N	P

5	EXTERNAL AND INTERNAL WIRING		P
5.2.10.3	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)..... :	60	P
	- torque test: torque (Nm)..... :	0.15	P
	- displacement ≤ 2 mm	1.0mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P

8	PROTECTION AGAINST ELECTRIC SHOCK		P
8.2.6	Covers reliably secured		P
	Tested with .....N	80N	P

4.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
4.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... :	IP20	—
	- mounting position during test.....:	As in normal use	—
	- fixing screws tightened; torque (Nm).....:		—
	- tests according to clauses.....:		—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A

Attachment No. 2

	b) no talcum in dust- tight luminaire		N/A
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N/A
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A
	g) no trace of water on part of lamp requiring protection from splashing water		N/A
	h) no damage of protective shield or glass envelope		N/A

	Temperature measurements, thermal tests of Section 12	N

	Type reference.....:	See appended table	—
	Lamp used.....:	LED modules	—
	Lamp control gear used.....:	See appended table	—
	Mounting position of luminaire.....:	As in normal use	—
	Supply wattage (W).....:		—
	Supply current (A)..... :		—
	Calculated power factor.....:		—
	Table: measured temperatures corrected for ta =25°C:		N
	- abnormal operating mode.....:		—
	- test 1: rated voltage..... :		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :		—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :		—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....:		—
	Through wiring or looping-in wiring loaded by a current of A during the test .....:		—
temperature (°C) of part	Clause 12.4 – normal		Clause 12.5 – abnormal

Attachment No. 2

	test 1	A: test 2	B: test 2	test 3	limit	test 4	limit
Remark:							

APPENDIX ZZ: SPECIAL NATIONAL CONDITIONS VARIATIONS TO IEC 60598-1, Ed. 7.0 (2008) FOR AUSTRALIA AND NEW ZEALAND			
0.1	Add the following text at the end of Clause 0.1: Where the term “lamp” is used in this Standard, it is taken to include electric light sources. LED light sources are subject to the same test parameters as “other discharge lamps”. NOTE: It is recommended that portable, rechargeable, battery operated luminaires comply with AS/NZS 60335.1, Annex B. In addition, portable, rechargeable, battery operated luminaires with lithium ion batteries should have overvoltage protection.	LED lamp	P
0.2	Add the following references: AS/NZS 3112, Approval and test specification—plugs and socket-outlets AS/NZS 3133, Approval and test specification—Air-break switches AS/NZS 3191, Electric flexible cords AS/NZS 60695.11.10, Fire hazard testing—Part 11.10: Test flames—50 W horizontal and vertical flame test methods (IEC 60695-11-10:1999, IDT) AS/NZS 61535, Installation couplers intended for permanent connection in fixed installations (IEC 61535, Ed. 1.0 (2009) MOD) IEC 61048, Auxilaries for lamps—Capacitors for use in tubular fluorescent and other discharge lamp circuits—General and safety requirements IEC 61049, Auxilaries for lamps—Capacitors for use in tubular fluorescent and other discharge lamp circuits—Performance requirements IEC 61995-1, Devices for the connection of luminaires for household and similar purposes—Part 1: General	No such components.	N

Attachment No. 2

0.4.2	After the first paragraph, add the following text: In Australia, for equipment, other than class III equipment, that is intended for connection to the supply mains and not marked with: — a rated voltage of at least 240 V for single-phase equipment or a rated voltage of at least 415 V for three-phase equipment; or — a rated voltage range that includes 240 V for single-phase equipment and 415 V for three-phase equipment, the rated voltage is equal to 240 V for single-phase equipment and 415 V for three-phase equipment, and the upper limit of the voltage range is equal to 240 V for single-phase equipment and 415 V for three-phase equipment.	Rated voltage 200-240V~	P
0.5	Add the following paragraph after the title: Throughout this document, where there is a relevant Australian/New Zealand Standard, it replaces the IEC Standard unless otherwise specified.		P
0.5.2A	Add the following new Clause after Clause 0.5.2: Capacitors shall comply with Clause 4.2A.	No such capacitor.	N
1.2	Add the following new definitions after 1.2.86:		--
1.2.87	installation coupler connecting device consisting of an installation female connector and an installation male connector provided with retaining means for permanent connection not intended to be engaged or disengaged under load nor to be engaged or disengaged other than during first installation, during maintenance of the wiring system or during re-configuration of the wiring system	No such components.	N
1.2.88	installation male connector: load side portion of an installation coupler which contains the male contacts	No such components.	N
1.2.89	installation female connector: supply side portion of an installation coupler which contains the female contacts	No such components.	N
1.2.90	installation coupler system: family of installation couplers consisting of one or more installation female connectors compatible by mechanical coding features with one or more installation male connectors, with the same ratings produced according to the specification of one manufacturer	No such components.	N
2.2	Addition: Class 0 Luminaires are not allowed in Australia and New Zealand.	Class II appliance	N

Attachment No. 2

3.2.12	Add the following paragraph after Note 3: In Australia, luminaires for household use and similar with supply cords which are not fitted with a plug shall be marked with a cord tag with the symbol for “must be installed by a licensed electrician”.  FIGURE ZZ1 MUST BE INSTALLED BY A LICENSED ELECTRICIAN		N
3.3	In Australia and New Zealand, instructions and other texts required by this Standard shall be written in English. Compliance is checked by inspection.	In English	P
3.3.7	Luminaires for use with metal halide lamps shall be provided with instructions that state the substance of the following: To avoid potential unsafe lamp failure, the luminaire shall be switched off for at least 30 minutes at least once a week. In addition, the luminaire shall be operated: — complete with its protective shield; or — with a double jacketed lamp.	Not metal halide lamps used.	N
3.3.21	Addition: The instructions shall contain details related to components in the luminaire that require replacement as part of a maintenance program.	No replacement necessary	N
4.8	Addition: Switches that indicate an off position shall have contacts with an air break and comply with AS/NZS 3133 or AS/NZS 61058.1.	No such components.	N

Attachment No. 2

4.2A	Capacitors shall be of a type to ensure that any capacitor failure results in a failsafe outcome (i.e. the capacitor type will fail in the open-circuit mode only and is protected against fire or shock hazard). Capacitors shall be not less than Type B capacitors with metal body and break action protection in accordance with IEC 61048 and IEC 61049. A capacitor complying with ANCI/EIA-456-A shall comply with IEC 61049 and IEC 61048:2006 excluding the endurance test of 18.1.1. NOTE Capacitors of Class S2 (formerly referred to as P2) of IEC 60252 (all parts) do not meet the safety requirements of a Type B capacitor. In addition, capacitors shall have a minimum voltage rating of 250 V at a temperature rating of 100 °C or 280 V at a temperature rating of 85 °C. Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or for voltage dividing, shall comply with IEC 60384-14.	No such components.	N
5.2.1	Luminaires shall be provided with only one of the following means of connection and isolation to the supply.		P
	Fixed luminaires: — device for the connection of luminaires; — terminals; plug for engagement with socket-outlets; — connecting lead (tails); — supply cord and plug; — adapter for engagement with supply tracks; — appliance inlet; — installation coupler; — luminaire coupler;	supply cord and plug	P
	Portable luminaires: — supply cord with plug; — appliance inlet.		N
	Track-mounted luminaires: — adaptor; — connector.		N

Attachment No. 2

	In Australia, non-portable luminaires with a supply cord shall be fitted with a plug complying with AS/NZS 3112 or a coupler complying with its standard, except where the luminaire has markings and instructions that comply with Clause 3.2.12, in which case, a plug or coupler is not required. However, for other than portable luminaires a plug is not required if the luminaire has markings and instructions in accordance with Clause 3.2.12.	No such device.	N
	The plug portion of a luminaire with integral pins shall comply with the relevant requirements of AS/NZS 3112. NOTE 1 Relevant requirements for equipment with integral pins are outlined in AS/NZS 3112. NOTE 2 PVC-insulated connection cords should not be used with outdoor luminaires in cold alpine locations.	No such device.	N
5.2.2	Delete clause and replace with the following:		--
	Supply cords used as a means of connection to the supply, when supplied by the luminaire manufacturer, shall be at least equal in their mechanical and electrical properties to those specified in IEC 60227 and IEC 60245, as indicated in Table 5.1, or AS/NZS 3191, and shall be capable of withstanding, without deterioration, the highest temperature to which they may be exposed under normal conditions of use.		P
	Table 5.1, delete rows 4 and 5 and replace with the following: Luminaires which are other than ordinary Portable rough service luminaires — 60245 IEC 57 — 60227 IEC 53 Portable rough service luminaires — 60245 IEC 66 — PVC insulated and sheathed heavy duty flexible cord		N
	To provide adequate mechanical strength, the nominal cross-sectional area of the conductors shall be not less than: — 0,75 mm^2; — 1,0 mm^2 for portable rough service luminaires.	0.50 mm^2	P
5.2.16	Class II luminaires for fixed wiring incorporating an appliance coupler shall not have means to allow further luminaires to be connected, including looping in by cascading. Luminaire couplers incorporated with the luminaire shall comply with IEC 61995-1.	No such components.	N

Attachment No. 2

5.2.18	All portable luminaires with a flexible supply cord shall be fitted with a plug complying with AS/NZS 3112. Other luminaires with flexible cords shall be fitted with a plug complying with AS/NZS 3112, unless they have the warning allowed by Clause 3.2.12.	No such components.	N
5.2.19	Addition: Installation couplers incorporated within luminaires shall comply with the requirements of AS/NZS 61535.	No such components.	N
	Luminaires incorporating installation couplers may have means to allow further luminaires to be connected by cascading provided the through wiring is rated for the current rating of the installation coupler.	No such components.	N
5.3.1	Internal wires coloured green, yellow or green/yellow combination shall beused for making protective earth connections only. Functional earth connections shall not be made by wires coloured green, yellow orgreen/yellow combination. Add the following new Note: NOTE 3 Internal wires of other colours are not precluded from making protective earthing connections.	Compliance checked.	P
7.2.11	All conductors, whether internal or external, coloured green, yellow or green/yellow combination, shall only be connected to an earthing terminal.	Compliance checked.	P
8.2.1	Luminaires shall be so constructed that their live parts and basic insulation are not accessible when the luminaire has been installed and wired as in normal use. Live parts shall not be accessible when the luminaire is opened as necessary for replacing lamps, replaceable light sources or (replaceable) starters, even if the operation cannot be achieved by hand. NOTE Examples of parts with basic insulation are cables intended for internal wiring, controlgear for building-in etc.	Compliance checked.	P
	This does not apply to the non-current -carrying parts of caps which comply with the relevant IEC safety standard.		N

Attachment No. 2

	Where a protective cover is used over a non-user-replaceable light source to provide protection against electric shock, and the cover is marked with the “caution, electric shock risk” symbol in accordance with IEC 60417-6042, the cover shall be left in place during the tests and inspections detailed by Section 8 of this Standard. The cover shall be held securely in position by fixings requiring the use of a tool for their removal, and at least two independent fixings shall be used.	No protective cover	N
12.1	Add the following new Note after Table 12.1: NOTE Luminaire manufacturers should consider the maximum ambient air temperature in the vicinity of components such as starting devices and electronic ballasts or converters. Component performance specifications advise manufacturers to mark or supply life data as maximum ambient air temperature based on 50,000 hrs. This t-life is often marked as ta and is the temperature of the air in the vicinity of the component and is not related to the luminaire ta. As such, luminaire manufacturers should measure air temperature in the vicinity of such components, within the luminaire, as even those complying with their tc point measurements can still fail prematurely if t-life is exceeded.		N
13.3	Parts of non-metallic material shall be resistant to flame and ignition. For materials other than ceramic, compliance is checked by the tests of 13.3.1 and 13.3.2, 13.3.3 and 13.3.4, as appropriate. This requirement does not apply to decorative trims, knobs, wiring insulation and other parts not likely to be ignited or to propagate flames from inside the luminaire. This Clause applies to all parts, including components, even if they have been tested to their own standard.	See below.	P

Attachment No. 2

13.3.1	Parts of non-metallic material supporting connections shall withstand the following test: Parts are subject to a test using a nickel-chromium glow-wire. The test apparatus and test procedure shall be those described in AS/NZS 60695.2.10. The glow wire is heated to 750 °C and applied to the test sample for 30 s. For all tests, any flame or glowing of the sample shall extinguish within 30 s of withdrawing the glow-wire, and any burning or molten drop shall not ignite a single layer of tissue paper specified in 4.187 of ISO 4046-4:2002, spread out horizontally 200 mm ± 5 mm below the sample.	No such parts	N
13.3.2	All other parts of non-metallic material shall withstand the following test: Parts are subject to a test using a nickel-chromium glow-wire. The test apparatus and test procedure shall be those described in AS/NZS 60695.2.10. The glow wire is heated to 650 °C and applied to the test sample for 30 s. For all tests, any flame or glowing of the sample shall extinguish within 30 s of withdrawing the glow-wire, and any burning or molten drop shall not ignite a single layer of tissue paper specified in 4.187 of ISO 4046-4:2002, spread out horizontally 200 mm ± 5 mm below the sample.	Enclosure plastic: 650°C, (Flame extinguished by itself within 30s, no flame and no residue drops on tissue paper.)	P
13.3.3	During the application of the 750 °C glow wire test of Clause 13.3.1, if a flame is produced that persists for longer than 2 s, the luminaire is further tested as follows:		N
	The needle-flame test of AS/NZS 60695.11.5 is applied to non-metallic parts that encroach within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm above the point of application of the glow wire. The needle flame is applied to the test sample for 30 s.		N
	Parts shielded by a barrier that meets the needle-flame test of AS/NZS 60695.11.5 are not tested.		N

Attachment No. 2

	NOTE This requires the needle flame to be applied to all parts likely to be impinged upon by the glow-wire flame within the hypothetical envelope of a vertical cylinder positioned above the point of application of the glow-wire. This applies to all parts unless there is a barrier that passes the needle-flame test and is within the cylinder and would protect the part from the glow-wire flame.		N
	The duration of burning shall not exceed 30 s after removal of the test flame and any burning drop shall not ignite the underlying parts or tissue paper specified in 4.187 of ISO 4046-4:2002, spread out horizontally 200 mm ± 5 mm below the sample.		N
	The needle-flame test is not carried out on parts that are made of material classified as V-0 or V-1 according to AS/NZS 60695.11.10. The sample of material classified in accordance with AS/NZS 60695.11.10 shall be no thicker than the relevant part.		N
13.3.4	PCBs in luminaires shall be subject to the needle-flame test of AS/NZS 60695.11.5. The needle flame shall be applied for 30 seconds to an edge of the PCB at least 10 mm from a corner. The duration of burning shall not exceed 15 s after removal of the needle flame and any burning droplets shall not ignite the tissue paper placed underneath the PCB. The needle-flame test is not carried out on PCBs made of material that is V-0 rated according to AS/NZS 60695.11.10.		N

Attachment No. 3

Photo 1:View of A03-003-0260-102.

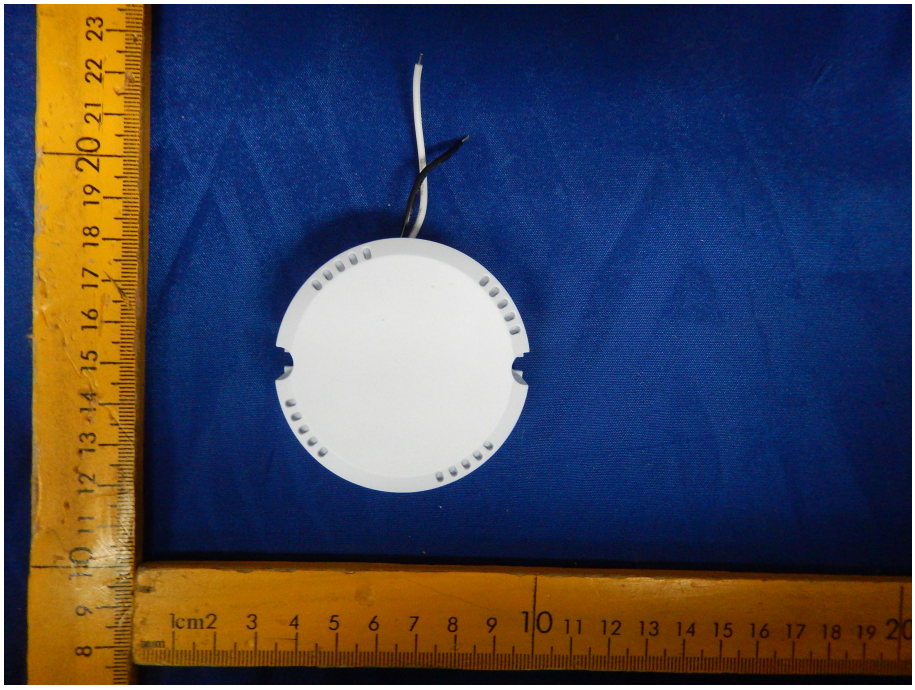
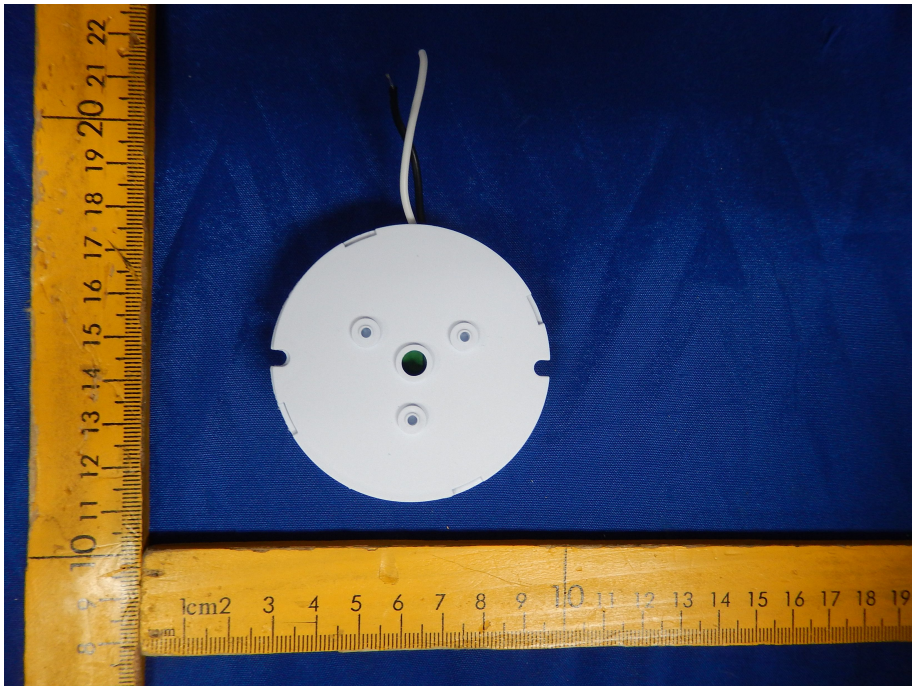


Photo 2:View of A03-003-0260-102.



Attachment No. 3

Photo 3:Internal view of A03-003-0260-102.

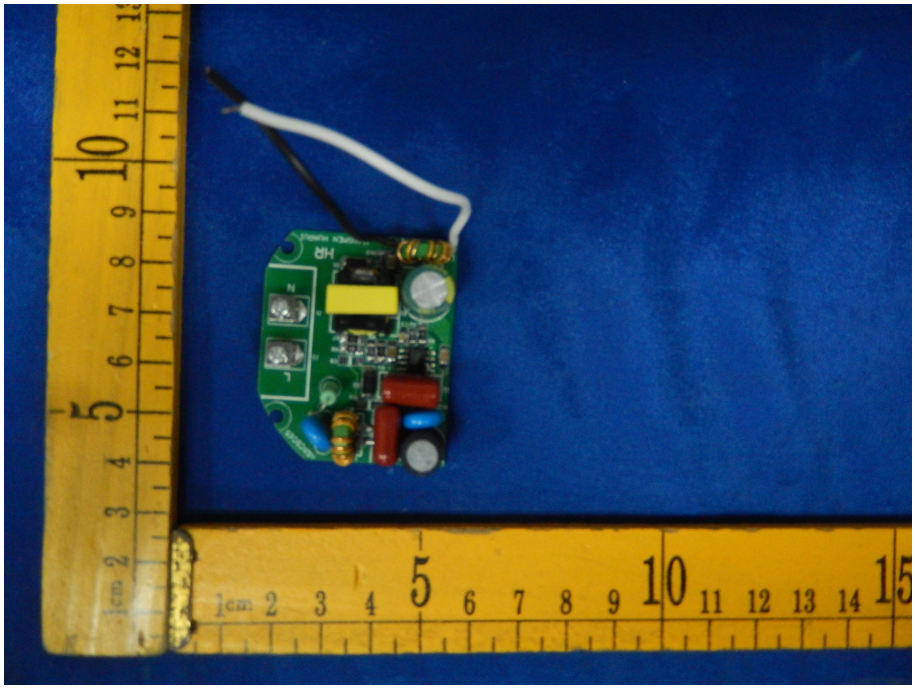
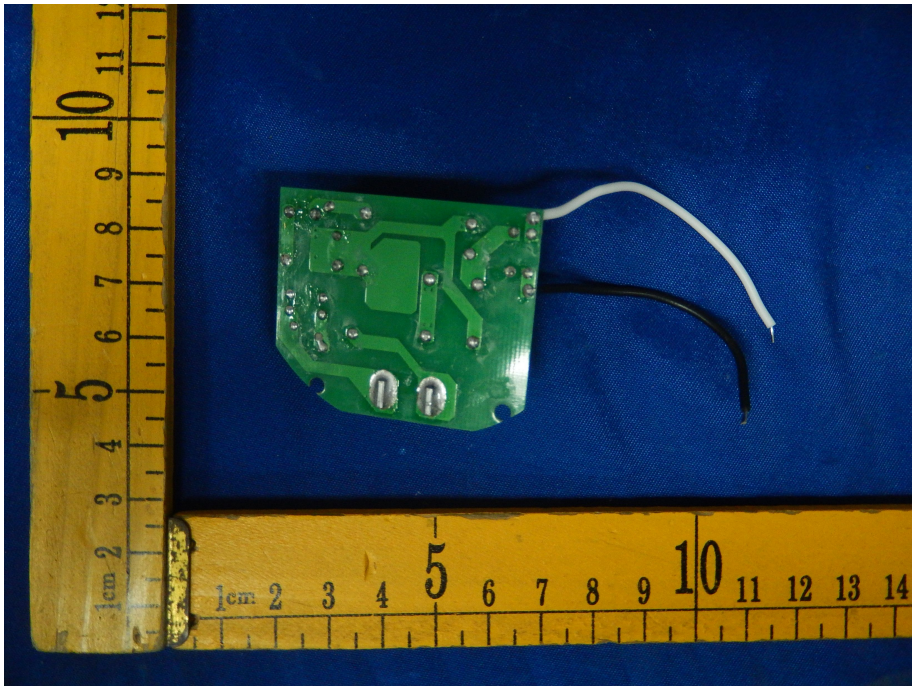


Photo 4:Internal view of A03-003-0260-102.



======End of report======