TEST REPORT
EN 61347-2-13
Part 2: Particular requirements:
Section 13: d.c or a.c supplied electronic control gear for LED modules

Report Number. .....:	BTEK251121001AS02
Version Number.....:	V0
Date of issue .....:	Dec. 17, 2025
Total number of pages.....:	39
Name of Testing Laboratory preparing the Report.....:	Shenzhen BANTEK Testing Co., Ltd.
Applicant's name.....:	Fly Dragon Lighting Equipment. Co., Ltd
Address .....:	NO.4 JINGNENG ROAD 1, HUADU DISTRICT, GUANGZHOU, 510800, CHINA
Test specification:	
Standard.....:	EN 61347-2-13:2014+A1:2017 used in conjunction with EN 61347-1:2015 + A1:2021 (IEC 61347-2-13:2014, AMD1:2016 used in conjunction with IEC 61347-1:2015, AMD1:2017)
Test procedure .....:	CE-LVD
Non-standard test method .....:	N/A
Test Report Form No. .....:	IEC61347_2_13G
Test Report Form(s) Originator ....:	Intertek Semko AB
Master TRF.....:	Dated 2023-09-27
Test item description .....:	Power Supply
Trademark(s).....:	N/A
Manufacturer.....:	Guangzhou Kingman Lighting Technology Co., Ltd
Address .....:	No.1 West Shanhe Road, Fenghuang Village, Huadong Town, Huadu District, Guangzhou City
Model/Type reference .....:	BLH800W150-3804830-013025060-800W
Ratings .....:	Input:100-240V~, 50/60Hz, 10A Max. Output CN1:380V⎓1.3A, 494W, Output V1:30V⎓6A, 180W Output V2:48V⎓2.5A, 120W Class I, SELV, ta: 45℃, tc: 85℃, Built-in, constant voltage output, For LED modules use only.

Tested by (name + signature) .....: Meteor Wang (Tester)

Reviewed (name + signature) .....: Jack Yang (Director)

ShenZhen BANTEK Testing Co.,Ltd.
Add：A5&A6, Building B1&B2, No.45 Gangtou Road, Bogang Community, Shajing Street
Bao'an District, Shenzhen, Guangdong, China 518104
Tel：+(86)755-2334 4200 E-mail：Service@btek-lab.com Web：www.btek-lab.com

List of Attachments (including a total number of pages in each attachment):

Attachment 1: European Group difference and national difference (1 page);

Attachment 2: Photo documentation (4 pages).

Summary of testing:

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

➢ Electrical safety

IEC 61347-2-13:2014, AMD1:2016 used in conjunction with IEC 61347-1:2015, AMD1:2017.

EN 61347-2-13:2014+A1:2017 used in conjunction with EN 61347-1:2015 + A1:2021.

Maximal ambient temperature as specified by the manufacturer: 45°C.

Test model: BLH800W150-3804830-013025060-800W.

Testing location:

A5&A6, Building B1&B2, No.45 Gangtou Road, Bogang Community, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Summary of compliance with National Differences (List of countries addressed):

EU

EU = European Group difference and national difference

☒ **The product fulfils the requirements of** EN 61347-2-13:2014+A1:2017 used in conjunction with EN 61347-1:2015 + A1:2021

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

On the enclosure:

Power Supply

Model: BLH800W150-3804830-013025060-800W

Input:100-240V~, 50/60Hz, 10A Max.

Output CN1:380V⎓1.3A, 494W, Output V1:30V⎓6A, 180W

Output V2:48V⎓2.5A, 120W

ta: 45℃ tc: 85℃

For LED modules use only

Guangzhou Kingman Lighting Technology Co., Ltd

MADE IN CHIAN

Importer: xxx

Address: yyy

1. The height of WEEE symbol is not less than 7 mm;
2. The height of other graphical symbols and CE logo are not less than 5 mm;
3. The height of letters and numerals is not less than 2 mm;
4. According to the standard, warning and text required by the standard should be written in the official language(s) of the country in which the appliance is to be sold. The applicant should ensure that the samples in future production fulfil the requirement;

5. Note: xxx means importer company name; yyy means importer company address information.

Test item particulars..... :	
Classification of installation and use..... :	Class I, SELV, Built-in control gear
Supply Connection ..... :	AC terminal
..... :	
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing.....:	
Date of receipt of test item .....:	Nov. 21, 2025
Date (s) of performance of tests .....:	Nov. 21, 2025 to Dec. 17, 2025

General remarks:

"(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 / ☒ point is used as the decimal separator.

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

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... : Same as manufacturer.

General product information and other remarks:

The products covered in this report are Power Supply, which are only used for LED modules.
Rely upon luminaire enclosure for protected against accidental contact with live parts.

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
4 (4)	**GENERAL REQUIREMENTS**		P
- (4)	Insulation materials for double or reinforced insulation according to requirements in Annex N of IEC 61347-1	(See Annex N)	P
- (4)	Compliance of independent control gear enclosure with IEC 60 598-1		N/A
- (4)	Built-in magnetic ballast with double or reinforced insulation complies with Annex I of IEC 61347-1		N/A
- (4)	Built-in electronic control gear with double or reinforced insulation complies with Annex O of IEC 61347-1	(See Annex O)	P
- (4)	SELV control gear complies with Annex L of IEC 61347-1	(See Annex L)	P
4 (-)	Transformer comply with IEC 61558		P
	Dielectric strength test of insulated winding wires is limited to 3 kV if input voltage ≤ 300 V		P

6 (6)	**CLASSIFICATION**		P
	Built-in control gear .....:	Yes ☒ No ☐	—
	Independent control gear .....:	Yes ☐ No ☒	—
	Integral control gear .....:	Yes ☐ No ☒	—
6 (-)	Auto-wound control gear .....:	Yes ☐ No ☒	—
	Separating control gear .....:	Yes ☐ No ☒	
	Isolating control gear .....:	Yes ☐ No ☒	
	SELV control gear .....:	Yes ☒ No ☐	

7 (7)	**MARKING**		**P**
7.1 (7.1)	**Mandatory markings**		**P**
	a) mark of origin	See copy of marking plate.	P
	b) model number or type reference	See copy of marking plate.	P
	c) symbol for independent controlgear, if applicable		N/A
	d) correlation between interchangeable parts and controlgear marked		N/A
	e) rated supply voltage (V)	100-240V~	P
	supply frequency (Hz)	50/60Hz	P
	supply current (A)	Max. 10 A	P
	f) earthing symbol		P
	k) wiring diagram		P
	l) value of tc	85°C	P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	m) symbol for declared temperature	No such symbol used.	N/A
	t) LUM earthing symbol	No such symbol used.	N/A
	u) if not SELV maximum working voltage U_{out} between:		N/A
	- output terminals (V) .....:		N/A
	- output terminals and earth (V) .....:		N/A
7.1 (-)	Constant voltage type:	Yes ☒ No ☐	—
	- rated output power P_{rated} (W) .....:	See copy of marking plate.	P
	- rated output voltage U_{rated} (V) .....:	See copy of marking plate.	P
	Constant current type:	Yes ☐ No ☒	—
	- rated output power P_{rated} (W) .....:		N/A
	- rated output current I_{rated} (A) .....:		N/A
	Indication if for LED modules only	See copy of marking plates.	P
7.1 (7.2)	Marking durable and legible	See below.	P
	Rubbing 15 s water, 15 s petroleum; marking legible	The marking on the controlgear was subjected to the permanence of marking test. The marking on the controlgear was rubbed with cloth soaked with water for 15 s and then again for 15 s with the cloth soaked with petroleum spirit. After this test there was no damage to the marking. The marking on the controlgear did not fade. There was no curling or lifting of the label's edges.	P
7.2 (7.1)	**Information to be provided, if applicable**		**P**
	h) declaration of protection against accidental contact	Rely upon luminaire enclosure for protected against accidental contact with live parts	P
	i) cross-section of conductors (mm²)		N/A
	j) number, type and wattage of lamp(s)		P
	s) SELV symbol		P
7.2 (-)	- declaration of mains connected windings		N/A

8 (10)	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		**P**
- (10.1)	Controlgear protected against accidental contact with live parts	Rely upon luminaire enclosure for protected against accidental contact with live parts	N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (A2)	Voltage measured with 50 kΩ	(see Annex A)	N/A
- (A3)	Voltage > 35 V peak or > 60 V d.c. or protective impendance device	(see Annex A)	N/A
- (10.1)	Lacquer or enamel not used for protection or insulation		N/A
	Adequate mechanical strength on parts providing protection		N/A
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V .....:	Capacitors < 0.5 μF; voltage after 1 min (V): 0V	P
- (10.3)	**Controlgear providing SELV**		**P**
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV controlgear	The SELV output is insulated from input live parts by double or reinforced insulation.	P
	No connection between output circuit and the body or protective earthing circuit		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	Compliance checked	P
	ELV conductive parts insulated as live parts	All ELV conductive parts were considered live parts.	N/A
	Tests according Annex L of IEC 61347-1	(see Annex L)	P
- (10.4)	**Accessible conductive parts in SELV circuits**		**P**
	Output voltage under load ≤ 25 V r.m.s. or ≤ 60 V d.c.	≤ 60Vdc	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		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 (8)	**TERMINALS**	**N/A**
- (8.1)	**Integral terminals**	N/A
	Screw terminals according section 14 of IEC 60598-1:	N/A
	Separately approved; component list	N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Part of the controlgear	No screws used	N/A
	Screwless terminals according section 15 of IEC 60598-1:		N/A
	Separately approved; component list		N/A
	Part of the controlgear		N/A
- (8.2)	**Terminals other than integral terminals**		**N/A**
	Comply with relevant IEC standard	(see Annex 1)	N/A
	Suit the conditions		N/A
	Satisfy additional relevant requirements of this standard		N/A
10 (9)	**PROVISION FOR PROTECTIVE EARTHING**		**P**
- (9.1)	**Provisions for protective earthing**		P
	Terminal complying with clause 8		P
	Locked against loosening and not possible to loosen by hand		P
	Not possible to loosen clamping means unintentionally on screwless terminals		P
	All parts of material minimizing the danger of electrolytic corrosion		P
	Made of brass or equivalent material		P
	Contact surface bare metal		P
	Test according 7.2.3 of IEC 60598-1		P
- (9.2)	**Provision for functional earthing**		N/A
	Comply with clause 8 and 9.1		N/A
	Functional earth insulated from live parts by double or reinforced insulation		N/A
- (9.3)	**Lamp controlgear with conductors for protective earthing by tracks on printed circuit board**		N/A
	Test with a current of 25 A between earthing terminal or earthing contact 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**		P
	Earth by means of fixing to earthed metal of luminaire in compliance of 7.2 of IEC 60598-1		P
	Earthing terminal only for earthing the built-in controlgear		P
- (9.5)	**Earthing via independent controlgear**		N/A
- (9.5.1)	Earth connection to other equipment		N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	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 of IEC 60598-1		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 or earthing contact 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**
- (11)	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance:		P
	For basic insulation ≥ 2 MΩ .....:	Between L and N after removing fuse: 100 MΩ > 2 MΩ Between live parts and the enclosure: 100 MΩ > 2 MΩ	P
	For double or reinforced insulation ≥ 4 MΩ .....:	Between input and output: 100 MΩ > 4 MΩ;	P
	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1	(see Annex L)	P

12 (12)	**ELECTRIC STRENGTH**		**P**
- (12)	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	1480 V	P
	Supplementary insulation, 2U + 1000 V		N/A
	Double or reinforced insulation, 4U + 2000 V	2960 V	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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
14 (14)	**FAULT CONDITIONS**		**P**
- (14.1)	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
	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 14)	P
- (14.2)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (after any reduction in 14.2 - 14.5)		N/A
- (14.3)	Short-circuit or interruption of semiconductor devices	(see appended table 14)	P
- (14.4)	Short-circuit across insulation consisting of lacquer, enamel or textile		N/A
- (14.5)	Short-circuit across electrolytic capacitors	(see appended table 14)	P
	Short-circuit or interruption of SPDs	(see appended table 14)	P
14 (-)	Reversed voltage polarity if d.c. supplied control gear		N/A
- (14.6)	After the tests has been carried out on three samples:		P
	The insulation resistance ≥ 1 MΩ .....:	>500MΩ	P
	No flammable gases	No flammable gases.	P
	No accessible parts have become live	No accessible parts have become live.	P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite	No ignition of tissue paper observed. (see appended table 14.6)	P
- (14.7)	Relevant fault condition tests with high-power a.c. supply and in turn to a d.c. supply	Supplied by a high-power supply during tests of fault conditions.	—
14 (-)	Temperature declared thermally protected lamp controlgear fulfil requirements in Annex C		N/A

15 (-)	**TRANSFORMER HEATING**		**P**
15.1	**General**		**P**
	Transformer comply with clause L.6 and L.7 of IEC 61347-1	See clause L.6 and L.7.	P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Output voltage of SELV controlgear not exceed limits in 10.4 of IEC 61347-1 during the test of 15.1 and 15.2	Maximum output 48Vdc (others see appended table15.3/L.7)	P
15.2 (-)	**Normal operation**		**P**
	Comply with clause L.6 of IEC 61347-1		P
15.3 (-)	**Abnormal operation**		**P**
	Comply with clause L.7 of IEC 61347-1	See below.	P
	Double LED modules or equivalent load connected in parallel to the output terminals of constant voltage type	(see appended table 15.3/L.7)	P
	Double LED modules or equivalent load connected in serial to the output terminals of constant current type	Constant voltage type.	N/A
15 (-)	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced		**P**
16 (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
- (15.4)	**Insulation between circuits and accessible parts**		P
- (15.4.2)	SELV circuits		P
	Source used to supply SELV circuits:		P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	- safety isolating transformer in accordance with relevant part 2 of IEC 61558	Compliance checked.	P
	- controlgear providing SELV in accordance with relevant part 2 of IEC 61347	Compliance checked.	P
	- another source		N/A
	Voltage in the circuit not higher than ELV	Compliance checked.	P
	SELV circuits insulated from LV by double or reinforced insulation	Compliance checked.	P
	SELV circuits insulated from non SELV circuits by double or reinforced insulation		N/A
	SELV circuits insulated from FELV circuits by supplementary insulation		N/A
	SELV circuits insulated from other SELV circuits by basic insulation		N/A
	SELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5	Compliance checked.	P
- (15.4.3)	FELV circuits		N/A
	Source used to supply FELV circuits:		N/A
	- separating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- separating controlgear providing basic insulation between input and output circuits in accordance with relevant part 2 of IEC 61347		N/A
	- another source		N/A
	- source in circuits separated by the LV supply by basic insulation		N/A
	Voltage in the circuit not higher than ELV		N/A
	FELV circuits insulated from LV supply by at least basic insulation		N/A
	FELV circuits insulated from other FELV circuits if functional purpose		N/A
	FELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		N/A
	Plugs and socket-outlets for FELV system comply with:		N/A
	- plugs not able to enter socket-outlets of other voltage systems		N/A
	- socket-outlets not admit plugs of other voltage systems		N/A
	- socket-outlets have a protective conductor contact		N/A
- (15.4.4)	Other circuits		N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulation between circuits other than SELV or FELV and accessible conductive parts in according Table 6 in 15.4.5.		N/A
- (15.4.5)	Insulation between circuits and accessible conductive parts		P
	Accessible conductive parts insulated from active parts of electric circuits by insulating according Table 6	(see appended table 17 (16))	P
	Requirements for Class II construction with equipotential bonding for protection against indirect contact with live parts:		N/A
	- all conductive parts are connected together		N/A
	- conductive parts are reliably connected together according test of IEC 60598-1 cl. 7.2.3		N/A
	- conductive parts comply with requirements of Annex A in case of insulation fault		N/A
17 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
- (16.1)	**General**		**P**
	Creepage distances and clearances according to 16.2 and 16.3	(see appended table 17(16))	P
	Controlgears providing SELV comply with additional requirements in Annex L	(see Annex L)	P
	Insulating lining of metallic enclosures	No metallic enclosures	N/A
	Controlgear protected against pollution comply with Annex P		N/A
- (16.2)	**Creepage distances**		**P**
- (16.2.2)	Minimum creepage distances for working voltages		P
	Creepage distances according to Table 7	(see appended table 17 (16))	P
- (16.2.3)	Creepage distances for working voltages with frequencies above 30 kHz		N/A
	Creepage distances according to Table 8	(see appended table 17 (16))	N/A
- (16.3)	**Clearances**		P
- (16.3.2)	Clearances for working voltages		P
	Clearances distances according to Table 9	(see appended table 17 (16))	P
- (16.3.3)	Clearances for ignition voltages and working voltages with higher frequencies		N/A
	Clearances distances for basic or supplementary insulation according to Table 10	(see appended table 17 (16))	N/A
	Clearances distances for reinforced insulation according to Table 11	(see appended table 17 (16))	N/A
18 (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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
(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
(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 or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		N/A
(4.12)	**Mechanical connections and glands**		P
(4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part .....:	Screw for fixing the LED driver PCB: 2.93mm; 0.5Nm	P
	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		N/A
(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

19 (18)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		**P**
- (18.1)	Ball-pressure test .....:	Phenolic materials are accepted without further test. (see appended table 19 (18.1))	P
- (18.2)	Test of printed boards .....:	UL approved PCB classified V-0 Compliance checked in accordance with 8.7 of IEC 61189-2 and relevant parts of IEC 61249-2. (see appended table 19 (18.2))	N/A
- (18.3)	Glow-wire test .....:	(see appended table 19 (18.3))	P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (18.4)	Needle flame test .....:	(see appended table 19 (18.4))	P
- (18.5)	Tracking test .....:	All applicable parts are of PTI 175.	P

20 (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

21 (-)	**MAXIMUM WORKING VOLTAGE (U_{out}) IN ANY LOAD CONDITION**		**P**
	Not exceed declared maximum working voltage U_{out} in any load condition		P

14	**TABLE: tests of fault conditions**	**P**
Part	Simulated fault	Hazard
U5(1-4) sc	There is no danger, no flame and no flammable gas.	No
U5(3-7) sc	There is no danger, no flame and no flammable gas.	No
U5(3-8) sc	There is no danger, no flame and no flammable gas.	No
U5(4-8) sc	There is no danger, no flame and no flammable gas.	No
T1 sc	There is no danger, no flame and no flammable gas.	No
Q1 sc	There is no danger, no flame and no flammable gas.	No
Output sc	There is no danger, no flame and no flammable gas.	No
Output op	There is no danger, no flame and no flammable gas.	No
Note: Input voltage 240Vac, 60Hz sc-Short circuit. op-Open circuit Each fault where fuse and fuse resistor F1 opened was tested with all sources of fuse, the same test result obtained.		

17 (16)	**TABLE: clearance and creepage distance measurements (mm)**						**P**
Applicable part of IEC 61347-1 Table 7 – 11*							
Distances	**Insulation type ****	**Measured clearance**	**Required**		**Measured creepage**	**Required**	
			clearance	***Table**		**creepage**	***Table**
Other than transformer							
Distance 1:	B/S	*1)	*1)	9	*1)	*1)	7
Distance 2:	R	*1)	*1)	9	*1)	*1)	7
Working voltage (V).....			see appended table 17 (16)				—

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

Frequency if applicable (kHz)					see appended table 17 (16)		—
PTI					< 600 ☒ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV)					see appended table 17 (16)		—
Pulse voltage if applicable (kV)					No pulse voltage.		—
Supplementary information: *1) see appended table 17 (16).							
For isolating transformer							
Distance 2:	R	*1)	*1)	9	*1)	*1)	7
	R	*1)	*1)	Table 13 of IEC 61558-1	*1)	*1)	Table 13 of IEC 61558-1
Working voltage (V)					see appended table 17 (16)		—
Frequency if applicable (kHz)					see appended table 17 (16)		—
PTI					< 600 ☒ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV)					see appended table 17 (16)		—
Pulse voltage if applicable (kV)					No pulse voltage.		—
Supplementary information: *1) see appended table 17 (16) in measurement section.							

** Insulation type: B – Basic; S – Supplementary; R – Reinforced

19 (18.1)	**TABLE: Ball Pressure Test**			**P**
Allowed impression diameter (mm) .....:		2		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
T1 bobbin	See annex 1	125	0.8	
PCB	See annex 1	125	0.6	
Supplementary information:				

19 (18.2)	**TABLE: Test of printed boards**				**N/A**
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (s)	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
--	--	--	--	--	--
--	--	--	--	--	--
Supplementary information:					

19 (18.3)	**TABLE: Glow-wire test**	**P**
Glow wire temperature..... :	650°C	—

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

Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
Insulation gasket	See annex 1	No	0	P
Supplementary information:				

19 (18.4)	TABLE: Needle-flame test				P
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (s)	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
T1 bobbin	See annex 1	10	No	0	P
PCB	See annex 1	10	No	0	P
Supplementary information:					

19 (18.5)	TABLE: Proof tracking test				P
Test voltage PTI ..... :	175 V				—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
PCB	See annex 1	No flame; over-current does not operate	No flame; over-current does not operate	No flame; over-current does not operate	P
Bobbin of transformer	See annex 1	No flame; over-current does not operate	No flame; over-current does not operate	No flame; over-current does not operate	P
Supplementary information:					

(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 .....:	DC48V	P
(A.3)	If voltage measured according Clause A.2 exceeds the limit value; touch current does not exceed 0,7 mA (peak) or 2 mA d.c. .....:		N/A
	Comply with Annex G.2 of IEC 60598-1		N/A

(C)	ANNEX C – PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROLGEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING		N/A
(C3)	GENERAL REQUIREMENTS		N/A
(C3.1)	Thermal protection means integral with the convertor, protected against mechanical damage		N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	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 ...:		—
(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
(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 14.2 to 14.5		N/A
	Output of windings connected to the mains supply short-circuited, and other part of the controlgear 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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	After 15 min value not exceed marked value		N/A
(D)	**ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROLGEAR**		N/A
	Tests in C7 performed in accordance with Annex D, if applicable		N/A
(F)	**ANNEX F – DRAUGHT-PROOF ENCOSURE**		P
	Draught-proof enclosure in accordance with the description		P
	Dimensions of the enclosure		P
	Other design; description	Draught free chamber used that establishes similar results.	P
(H)	**ANNEX H - TESTS**		N/A
	All tests performed in accordance with the advice given in Annex H, if applicable	Tested accordingly.	N/A
I (L)	**ANNEX I IN THIS PART 2 – PARTICULAR ADDITIONAL REQUIREMENTS FOR SELV D.C. OR A.C. SUPPLIED ELECTRONIC CONTROLGEARS FOR LED MODULES**		**P**
(L.3)	**Classification**		**P**
	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**		**P**
	Adequate symbols are used	See copy of marking plate for symbols used.	P

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

(L.5)	**Protection against electric shock**		**P**
	Comply with clause 9.2 of IEC 61558-1		P
(L.6)	**Heating**		**P**
	No excessive temperatures in normal use	(see appended table 15.2/L.6)	P
	Value if capacitor t_c marked .....:	(see appended table 15.2/L.6)	—
	Winding insulation classified as Class .....:	Class 130 (B)	—
	Comply with tests of clause 14 of IEC 61558-1 with adjustments	Compliance checked.	P
(L.7)	**Short-circuit and overload protection**		**P**
	Comply with tests of clause 15 of IEC 61558-1 with adjustments	(see appended table 15.3/L.7)	P
(L.8)	**Insulation resistance and electric strength**		**P**
(L.8.1)	Conditioned 48 h between 91 % and 95 %	See sub-clause 11 (11).	P
(L.8.2)	Insulation resistance		P
	Between input- and output circuits not less than 5 MΩ .....:	＞100	P
	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 .....:	＞100	P
(L.8.3)	Electric strength		P
	1) Between live parts of input circuits and live parts of output circuits .....:	3750 V (Between input and output and between transformer T1 secondary and core/primary winding)	P
	2) Over basic or supplementary insulation between:		P
	a) live parts having different polarity .....:	1500 V (Between L and N after fuse F1 removed)	P
	b) live parts and body if intended to be connected to protective earth .....:	1500V	P
	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 .....:	See sub-clause 12 (12).	P
(L.9)	**Construction**		**P**

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
(L.9.1)	Transformer comply with 19.12 of IEC 61558-1 and 19 of IEC 61558-2-6	All windings fixed by bobbin and insulation tape VDE approved triple insulated wires used for secondary winding of transformer T1	P
	HF transformer comply with 19 of IEC 61558-2-16	(see appended table 17 (16))	P
(L.10)	**Components**		**P**
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1	(see Annex 1)	P
(L.11)	**Creepage distances, clearances and distances through insulation**		**P**
	Creepage distances and clearances not less than in Clause 16	(see appended table 17 (16))	P
	Distance through insulation according Table L.5 in IEC 61347-1		P
	1) Basic distance through insulation		P
	Required distance (mm) .....:	See below.	—
	Measured (mm) .....:	(see appended table 17 (16))	P
	Supplementary information		—
	2) Supplementary distance through insulation		P
	Required distance (mm) .....:	See below.	—
	Measured (mm) .....:	(see appended table 17 (16))	P
	Supplementary information		—
	3) Reinforced distance through insulation		P
	Required distance (mm) .....:	See below.	—
	Measured (mm) .....:	(see appended table 17 (16))	P
	Supplementary information		—

J (-)	**ANNEX J IN THIS PART 2 – PARTICULAR ADDITIONAL SAFETY REQUIREMENTS FOR A.C., A.C./D.C. OR D.C. SUPPLIED ELECTRONIC CONTROLGEAR FOR EMERGENCY LIGHTING**		N/A
J.1	**General**		**N/A**
	Intended for centralized emergency power supply	Yes ☐ No ☐	—
J.2	**Marking**		N/A
J.2.1	Mandatory markings		N/A
	a) symbol EL		N/A
	b) rated emergency supply voltage (V)		N/A
J.2.2	Information to be provided if applicable		N/A
	a) Limits of ambient temperature		N/A
	b) Emergency output factor (EOF_X)		N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	c) Information if intended for use in luminaires for high-risk task area lighting		N/A
J.3	General notes on tests		N/A
	Length of output cable in tests .....:		N/A
	Load instead of LED lamps/modules .....:		N/A
J.4	Starting conditions		N/A
	Start rated load in emergency mode without adversely affecting the performance		N/A
J.5	Operating condition		N/A
	Comply with the requirements of 7.2 of IEC 62384 at 90% and 110% of rated emergency supply voltage		N/A
J.6	Emergency supply current		N/A
	Emergency supply current not differ more than ±15 %		N/A
	Supply of low impedance and low inductance		N/A
J.7	EMC immunity		N/A
	Comply with the requirements of IEC 61547		N/A
J.8	Pulse voltage from central battery systems		N/A
	Withstand pulses according Table J.1		N/A
J.9	Tests for abnormal conditions		N/A
	Comply with the requirements of 12 of IEC 62384		N/A
J.10	Comply with the requirements of 13 of IEC 62384		N/A
J.11	Functional safety (EOF_x)		N/A
	Declared emergency output factor (EOF_x) achieved during emergency operation		N/A

(N)	**ANNEX N: REQUIREMENTS FOR INSULATION MATERIALS USED FOR DOUBLE OR REINFORCED INSULATION**		**P**
(N.4)	**General requirements**		**P**
(N.4.1)	Material comply with IEC 60085 and IEC 60216 series		P
(N.4.2)	**Solid insulation**		**P**
	Electric strength test at least 5 kV or 1,35 x test voltage in Table N.1		P
	If not classified according IEC 60085 and IEC 60216 series: Electric strength test increased 10 % to 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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	- Inside the ballast and not subjected to handling or abrasion during the production and during maintenance		P
	- Non-separated layers: Min. 3 layers and fulfil mandrel test of 150N	For transformer insulation tape	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		N/A
	- one of 2 separated layers: min. 5 kV or 1,25 x test voltage in Table N.1		P
	No flashover or breakdown occurred		N/A
(O)	**ANNEX O: ADDITIONAL REQUIREMENTS FOR BUILT-IN ELECTRONIC CONTROLGEAR WITH DOUBLE OR REINFORCED INSULATION**		**P**
(O.6)	**Marking**		**P**
	Marking according clause 7 (7)		P
	Special symbol		N/A
	Meaning of the special symbol explained in catalogue		N/A
(O.7)	**Protection against accidental contact with live parts**		**N/A**
	Requirements of clause 8 (10)		N/A
	Test finger not possible to make contact with basic insulated metal parts		N/A
(O.8)	**Terminals**		**P**
	Clause 9 (8)		P
(O.9)	**Provision for earthing**		P
	Functional earthing terminals comply with clause 9 of part 1		N/A
	No protective earthing terminal		N/A
(O.10)	**Moisture resistance and insulation**		**P**
	Clause 11 (11)		P
(O.11)	**Electric strength**		**P**
	Clause 12 (12)		P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
(O.13)	**Fault conditions**		**P**
	Clause 14 (14)	See clause 14	P
	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 according clause 12 reduced to 35 % of values according Table 3 in part 1		P
	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		P
(O.14)	**Construction**		**P**
	Clause 17 (15)		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**		**P**
	Clause 18 (16)		P
	Comply with corresponding values for luminaries in IEC 60598-1		P
(O.16)	**Screws, current-carrying parts and connections**		**P**
	Clause 19 (17)		P
(O.17)	**Resistance to heat and fire**		**P**
	Clause 20 (18)		P
(O.18)	**Resistance to corrosion**		P
	Clause 21 (19)		P

(P)	**Creepage distances and clearances and distance through isolation (DTI) for lamp controlgear which are protected against pollution by the use of coating or potting**		**N/A**
(P.1)	**General**		**N/A**
	P.2 applies if creepage distances less than the minimum in Table 7 and 8		N/A
	P.3 applies if clearance less than the minimum in Table 9, 10 and 11		N/A
(P.2)	**Creepage distances**		**N/A**
(P.2.2)	Minimum creepage distances for working voltages and rated voltages with frequencies up to 30 kHz (Table P.1)		N/A
	Basic or supplementary insulation:		N/A
	Required creepage.....:		—

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Measured .....:		N/A
	Supplementary information		—
	Reinforced insulation:		N/A
	Required creepage.....:		—
	Measured .....:		N/A
	Supplementary information		—
(P.2.3)	Creepage distances for working voltages with frequencies above 30 kHz (Table P.2)		N/A
	Voltage $\hat{U}_{out}$ kV .....:		—
	Frequency .....:		—
	Required distance .....:		—
	Measured .....:		N/A
	Supplementary information		—
(P.2.4)	Compliance with the required creepage distances		N/A
(P.2.4.1)	Compliance in accordance with 16.3.3 and test according P.2.4.2		N/A
(P.2.4.3)	Electrical tests after conditioning		N/A
(P.2.4.3.1)	Insulation resistance and electric strength according Clause 11 and 12		N/A
(P.3)	**Distance through isolation**		N/A
(P.3.4)	Electrical tests after conditioning		N/A
(P.3.4.1)	Insulation resistance and electric strength according Clause 11 and 12		N/A
(P.3.4.2)	Impulse voltage dielectrical test		N/A
	Basic or supplementary insulation:		N/A
	Working/rated voltage .....:		—
	Impulse voltage .....:		N/A
	Supplementary information		—
	Reinforced insulation:		N/A
	Working/rated voltage .....:		—
	Impulse voltage .....:		N/A
	Supplementary information		—

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

ANNEX 1	TABLE: Critical components information					P
Object / part No.	**Code**	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1])**
Insulation sheet	C	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DF6025	V-0, 105°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E199019 Test with appliance
PCB	C	KINGBOARD LAMINATES HOLDINGS LTD	KB-6160C	V-0, 130°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E123995 Test with appliance
Fuse	B	Dongguan Better Electronics Technology Co., Ltd.	244	250V, 10A	EN 60127-4:2005+A1+A2 EN 60127-1:2006+A1+A2	TUV R50335764
Fuse	D	Interchangeable	Interchangeable	10A, 250V	IEC 60127	IEC
X-capacitor	B	Guangdong JURCC electronics Co., LTD.	MPX/MKP	1.0uF, 275/305/310Vac, 110°C, X2 type	IEC 60384-14	VDE 40034920
Varistor	B	Cerglass MFG Inc	14D511K	Min.300Vac, Min.125°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40028836
THERMAL PAD	C	DONGGUAN HUAYUE THERMAL TECHNOLOGY CO LTD	LA	V-0, 105°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E472302 Test with appliance
Silicone	C	SIX PHASE CO LTD	SP-610 #	V-0, 150°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E89757 Test with appliance
Optocoupler	B	Everlight Electronics Co., Ltd.	EL1018 V	6000 vpeak, 150°C	DIN EN IEC 60747-5-5	VDE 40028391
Y-capacitor	B	Yinan Don's Electronic Component Co., Ltd	CT81	470pF, 400VAC, Y1, 125°C	IEC/EN 60384-14	VDE 135256
Inductor	C	Kaihui Electronics CO., LTD. Guangzhou	LF012DZ	T18*10*8, 0.6mm*32ts, 10mH	IEC/EN 61347-2-13 IEC/EN 61347-1	Test with appliance
-Magnet wire	C	SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO LTD	2UEW/130	130°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E239508 Test with appliance
Inductor	C	Kaihui Electronics CO., LTD. Guangzhou	KT462-R5	PQ3220, 0.2mm*17P 40TS, 0.3mH	IEC/EN 61347-2-13 IEC/EN 61347-1	Test with appliance

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

-Bobbin	C	CHANG CHUN PLASTICS CO LTD	T375J(G5)(G6)	Phenolic, V-0, 150°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E59481 Test with appliance
-Magnet wire	C	SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO LTD	2UEW/130	130°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E239508 Test with appliance
-Insulation tape	C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ* (b)	130°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E165111 Test with appliance
Transformer	C	Interchangeable	Interchangeable	Class B	IEC/EN 61347-2-13 IEC/EN 61347-1	Test with appliance
-Bobbin	C	CHANG CHUN PLASTICS CO LTD	T375J(G5)(G6)	Phenolic, V-0, 150°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E59481 Test with appliance
-Magnet wire	C	SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO LTD	2UEW/130	130°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E239508 Test with appliance
-Insulation tape	C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ* (b)	130°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E165111 Test with appliance
-Triple insulation wire	C	SHENZHEN DARUN SCIENCE AND TECHNOLOGY CO LTD	DRTIW-B	130 ºC	IEC 62368-1	VDE 40032470
-Teflon Tube	C	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-T, CB-TT-S	CB-TT-T: 300V, 200°C CB-TT-S: 600V, 200°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E180908 Test with appliance
-Varnish	C	SHENZHEN EASTLIGHT CHEMICAL CO LTD	DFL-8033-(a)	MW 35-C, 180°C	IEC/EN 61347-2-13 IEC/EN 61347-1	UL E359418 Test with appliance

Supplementary information:

1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

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 authorized by the test house

C - Integrated component tested together with the appliance

D - Alternative component

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

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).....:		—
(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
	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

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

ANNEX 3	**Screwless terminals (part of the luminaire)**		N/A
(15)	**SCREWLESS TERMINALS**		N/A
(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
(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
(15.5.2)	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
(15.6)	Terminals and connections for external wiring		N/A
(15.6.1)	Conductors		N/A
	Terminal size and rating		N/A
15.6.2	Mechanical tests		N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N) .....:		N/A
(15.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N) .....:		N/A
(15.6.3)	Electrical tests		N/A
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1		N/A

(15.6.3.1) (15.6.3.2)	**TABLE: Contact resistance test / Heating tests**									N/A
	Voltage drop (mV) after 1 h									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	5	3	4	3	3	4	5	6	4	4
	Voltage drop of two inseparable joints					6				P
	Voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (mV) .....:					15				—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV) .....:					--				—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 10th alt. 25th cycle									
	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									
	Max. allowed voltage drop (mV) .....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
Supplementary information:										

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

ANNEX 4	**TABLE: Temperature measurements, thermal tests of Section 12**		P
	Type reference ..... :	BLH800W150-3804830-013025060-800W	—
	Lamp used..... :	Electronic load	—
	Lamp control gear used ..... :	LED driver	—
	Mounting position of luminaire ..... :	Normal use	—
	Supply wattage (W)..... :	800W	—
	Supply current (A) ..... :	8.7A (94V) 3.2A (254.4V)	—
	Calculated power factor ..... :		—
	Table: measured temperatures corrected for ta = 45 °C:		P
	- abnormal operating mode ..... :	Short circuit and overload protection	—
	- test 1: rated voltage ..... :	--	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :	Normal: 0.94 x 100 = 94V, 1.06 x 240 = 254.4V	—
	- 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..... :	0.9 x 100 = 90 V 1.1 x 240 = 264 V	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	—	—

Temperature measurements, (°C)

Part	Ambient	Clause 12.4 – normal							Clause 12.5 – abnormal	
		test 1	test 2				test 3	limit	test 4	limit
			--	94 V	--	254.4 V				
X-capacitor	—	—	—	56.5	—	55.1	—	110	—	—
LF3	—	—	—	89.3	—	87.6	—	130	—	—
LF4	—	—	—	92.4	—	90.3	—	130	—	—
PCB near Q1	—		—	95.5	—	93.8	—	130	—	—
Transformer Winding	—	—	—	111.5	—	109.2	—	120	—	—
Transformer Bobbin	—	—	—	108.3	—	107.5	—	Ref.	—	—
Output terminal connector	—	—	—	65.3	—	63.9	—	110	—	—
Enclosure (TC)	—	—	—	82.5	—	81.8	—	85	—	—
Mounting surface	—	—	—	76.5	—	75.6	—	90	—	—

Fault condition

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

Temperature (°C) of part	Normal			Abnormal	
	Test 1	Test 2	Limit	Test 3	Limit
Operated for 1h, no defect impairing safety nor smoke or flammable gases produced.					
Double the LED modules or equivalent load					
Temperature (°C) of part	Normal			Abnormal	
	Test 1	Test 2	Limit	Test 3	Limit
Operated for 1h, no defect impairing safety nor smoke or flammable gases produced.					
The output terminals shall be short-circuited					
Temperature (°C) of part	Normal			Abnormal	
	Test 1	Test 2	Limit	Test 3	Limit
Operated for 1h, no defect impairing safety nor smoke or flammable gases produced.					
Over load condition					

Temperature (°C) of part	Normal			Abnormal		
	Test 1	Test 2	Limit	Test 3		Limit
				90V	264V	
Transformer Winding	--	--	--	120.3	119.2	175
Mounting surface	--	--	--	86.3	85.0	130
Ambient	--	--	--	45.0	45.0	Ref

Supplementary information: —

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

17 (16)	TABLE: creepage distances and clearances					P
clearance cl and creepage distance cr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	Cl (mm)	required cr (mm)	Cr(mm)
Different polarity of L and N(BI)	420	250	1.5	3.7	2.5	3.7
Two ends of fuse(BI)	420	250	1.5	3.8	2.5	3.8
Primary trace to secondary trace under CY1 (RI)	420	250	3.0	7.7	5.0	7.7
Primary to secondary track under transformer(RI)	420	250	3.0	＞8.0	5.0	＞8.0
Transformer primary core to secondary compent(RI)	420	250	3.0	＞8.0	5.0	＞8.0
DTI (other than input and output winding)						
DTI at/of:	Up (V)	U r.m.s. (V)	required DTI (mm)	DTI (mm)	Remark	
--	--	--	--	--	--	
Supplementary information: *BI=Basic insulation, RI=Reinforced insulation 1. Tripled insulated wire used as secondary winding of T1 and Core of transformer T1 considered as primary part. For transformer construction, see below table for details. 2. Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed.						

17 (16)	**TABLE: Transformer construction**					**P**
Transformer part name	See annex 1					
Manufacturer.....	(see ANNEX 1: components)					
Type	(see ANNEX 1: components)					
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Transformer primary core to secondary pin(RI)	420	250	3.0	＞10	5.1	＞10
Transformer primary winding to secondary pin(RI)	420	250	3.0	＞10	5.1	＞10
DTI (between input and output winding)						
DTI at/of:	Up (V)	U r.m.s. (V)	required DTI (mm)	DTI (mm)	Remark	
Primary winding to secondary winding (reinforced insulation)	420	250	--	--	Triple insulation wire in secondary. Compliance checked in accordance with clause 19.12.3 of IEC 61558-2-16:2009+A1 in conjunction with IEC 61558-1:2005+A1.	

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

Description of design:

Concentric windings on phenolic type bobbin. The secondary windings are triple insulated wire. Core is considered as primary. Tubing was used to separate primary windings and secondary triple insulated wires where crossing at 45° and 90°.The lead pins soldered to primary/secondary windings directly moulded in bobbin.

--	**Table: working voltage measurement**	**P**

Location		RMS voltage (V)	Peak voltage (V)	Comments
From (Pri.)	To (Sec.)	--	--	--
T1 Pin 1	T1 Pin 6	222	345	--
T1 Pin 1	T1 Pin 7	229	346	--
T1 Pin 1	T1 Pin 8	225	352	
T1 Pin 2	T1 Pin 6	217	343	--
T1 Pin 2	T1 Pin 7	223	348	--
T1 Pin 2	T1 Pin 8	219	347	--
T1 Pin 3	T1 Pin 6	216	348	--
T1 Pin 3	T1 Pin 7	216	338	--
T1 Pin 3	T1 Pin 8	227	349	--
T1 Pin 4	T1 Pin 6	239	342	--
T1 Pin 4	T1 Pin 7	225	345	--
T1 Pin 4	T1 Pin 8	218	349	--
T1 Pin 5	T1 Pin 6	**243**	**374**	Max. RMS and Peak
T1 Pin 5	T1 Pin 7	226	349	--
T1 Pin 5	T1 Pin 8	219	345	--
PC2 Pin 3	PC2 Pin 1	223	345	--
PC2 Pin 3	PC2 Pin 2	224	347	--
PC2 Pin 4	PC2 Pin 1	219	343	--
PC2 Pin 4	PC2 Pin 2	226	340	--
CY1 Pin 1	CY1 Pin 2	2233	357	--

Supplementary information:

1. The unit was connected to AC 240V, 60Hz, unless otherwise specified.
2. All other trace to trace measurements have been measured less than 420Vpeak and 250Vrms.

Attachment 1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

ATTACHMENT TO TEST REPORT IEC 61347-2-13 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES PART 2: PARTICULAR REQUIREMENTS Section Thirteen – d.c. or a.c. supplied electronic controlgear for LED modules	
Differences according to.....:	EN 61347-2-13:2014+A1:2017 used in conjonction with EN 61347-1:2015 + A1:2021

	CENELEC COMMON MODIFICATIONS (EN)	P
	No Common modifications	P

Attachment 2
Photo documentation

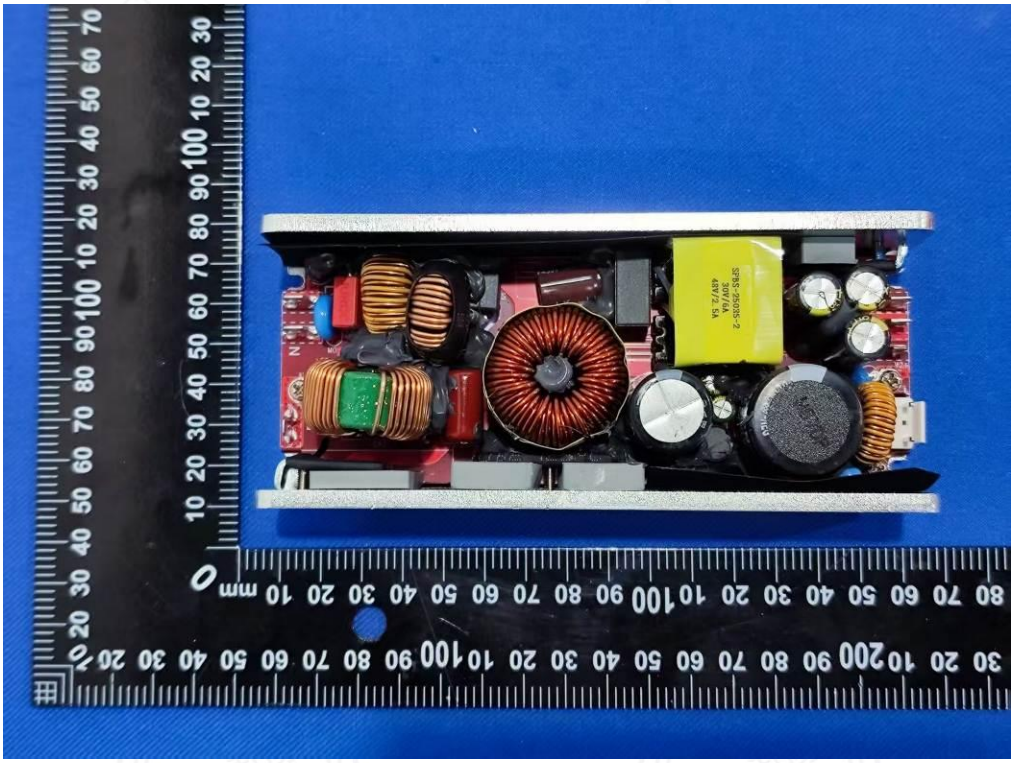

Figure 1 External view

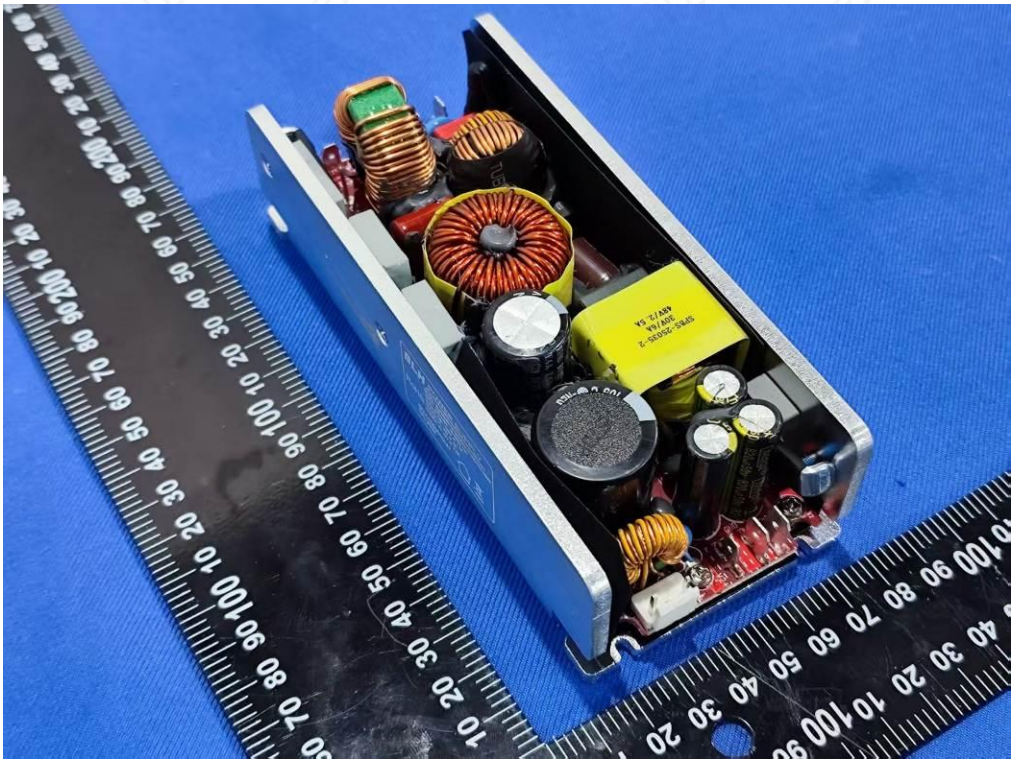

Figure 2 External view

Attachment 2
Photo documentation



Figure 3 External view

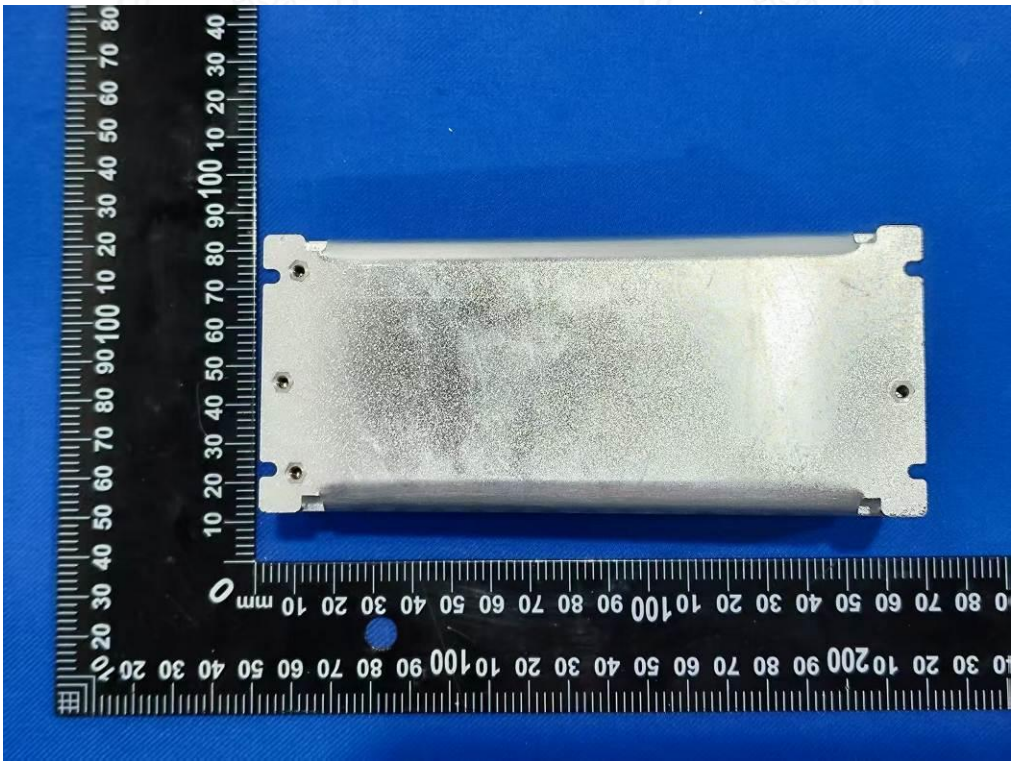

Figure 4 External view

Attachment 2
Photo documentation

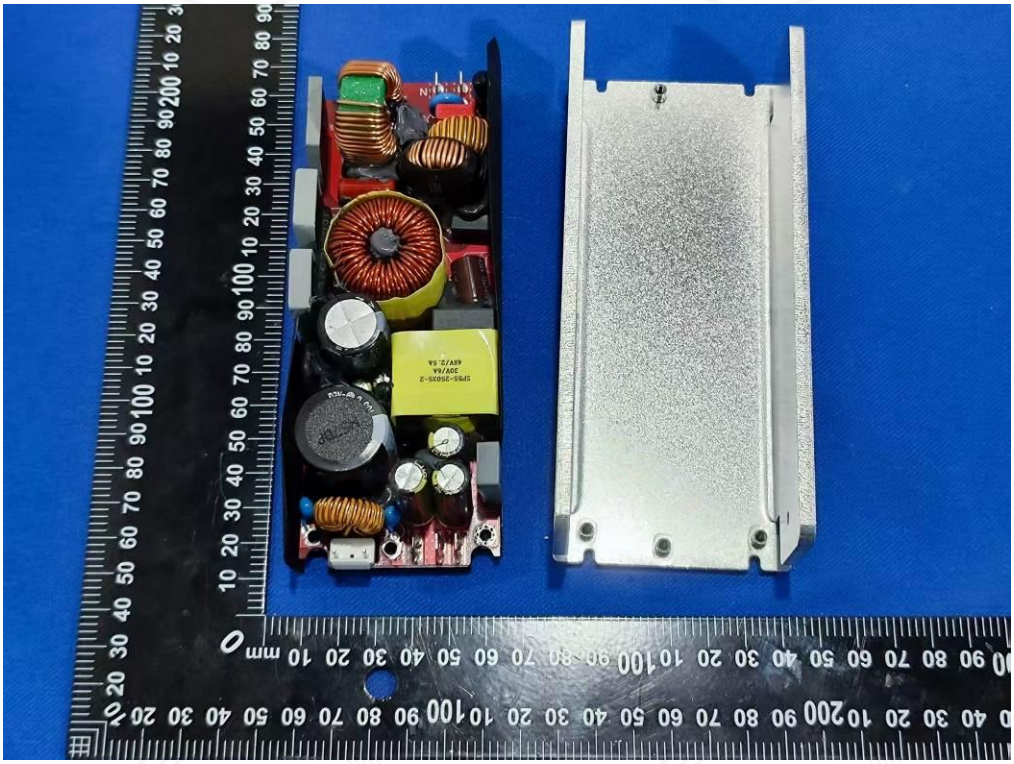

Figure 5 Internal view



Figure 6 Internal view

Attachment 2
Photo documentation

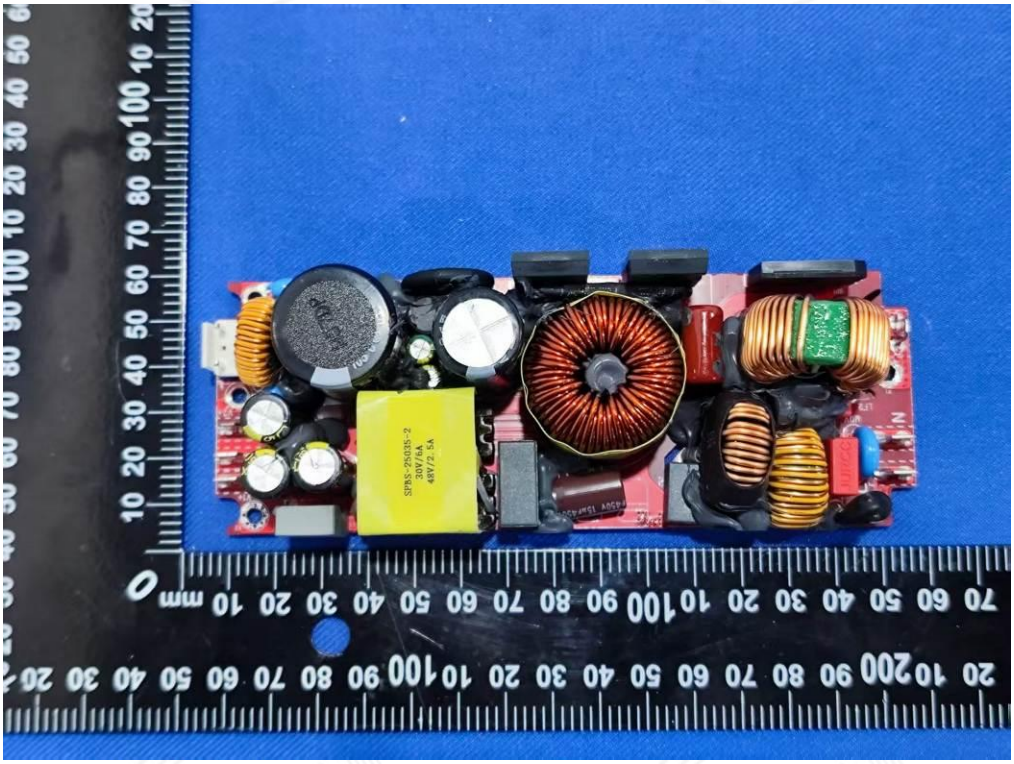

Figure 7 Internal view

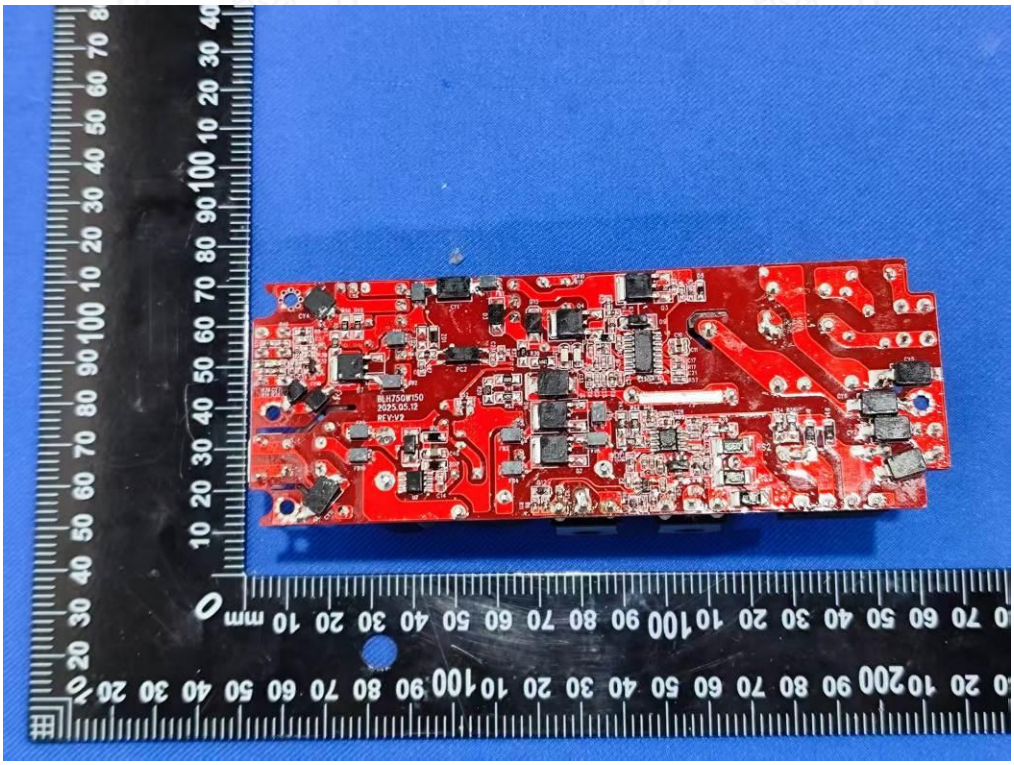

Figure 8 Internal view

--- End of main report ---