Form

Data form for electrical and electronic equipment/components

Aufbauübersicht für elektrische und elektronische Geräte/Komponenten

Product Service

Applicant / Auftraggeber:	Leding Light B.V. Puntweg 11 3208LD Spijkenisse THE NETHERLANDS
Manufacturer / Hersteller:	Leding Light B.V. Puntweg 11 3208LD Spijkenisse THE NETHERLANDS
Authorized person / Bevollmächtigter	Lu Xiaoping
Factory / Fertigungsstätte:	Suzhou Deli Precise Machinery Co., LTD Majia Industrial Zone,Hengjing Town, Wuzhong District 215100 Suzhou City,Jiangsu Province PEOPLE'S REPUBLIC OF CHINA
Type of equipment / Geräteart:	Electronic controlgear for LED modules (LED Driver)
Type/model / Typenbezeichnung:	Refer to model list
Serial no. / Seriennr.:	N/A
Rated voltage/frequency / Nennspannung/Frequenz:	220-240V~; 50/60Hz
Rated input power/current / Nennaufnahme/Nennstrom:	Refer to model list
Connection to water installation / Anschlussdaten-Wasser:	N/A
Dimensions / Abmessungen [HxWxD / HxBxT]:	143*53*33/111*44*31/86*36*31 (mm)
Weight / Gewicht:	Max. 0.235 [kg]
Noise emission / Lärmemission:	N/A
Ambient temperature / Umgebungstemperatur	ta: -20~40 °C; tc: 90°C ☒
Operation / Einsatz:	< 2,000 m above sea level / < 2.000 m üNN ☒ up to m / bis zu m ☐

Classification of installation and use /:
Installation und Nutzung

Stationary	Ortsfest	☐
Portable	Ortsveränderlich	☐
Hand-held	Handgerät	☐
Open-frame	Einbaugerät	☐
Indepedent		☒

Protection class / Schutzklasse:

I: PE-connection	Schutzleiteranschluss	☐
II: Double insulation	Schutzisoliert	☒
III: SELV / internally	Schutzkleinspannung /	☐

Test Report No. / Prüfbericht Nr.: 704022033104-00

Place / Ort: Shanghai **Date** / Datum: 2020-09-03

Name of Project manager / Zang Xudong
Name Projektleiter:

Name, seal and signature of Certificate Holder
Name, Stempel und Unterschrift des Zertifikatinhabers:

Product Service

Data form for electrical and electronic equipment/components

Aufbauübersicht für elektrische und elektronische Geräte/Komponenten

		powered	interne Stromversorgung
Degree of protection / Schutzart /:	IP	20	☒
Degree of pollution / Verschmutzungsgrad:		**1** ☐ **2** ☒	**3** ☐ **4** ☐
Overvoltage category / Überspannungskategorie:		**I** ☐ **II** ☒	**III** ☐ **IV** ☐
Supply connection / Anschlussart:		Nondetachable cord	Feste Anschlussleitung ☐
		Permanent connection	Fester Anschluss ☐
		Appliance inlet	Gerätesteckvorrichtung ☒
		Connecting leads	☒
Rated operation / Netzbetriebsart:		Continuous operation	Dauerbetrieb ☒
		Intermittent operation	Aussetzbetrieb ☐
		Short time operation	Kurzzeitbetrieb ☐

Additional information for Laser equipment, classification according to IEC/EN 60825

Zusätzliche Angaben für Laser, Klassifizierung nach IEC/EN 60825

Class / Klasse:	N/A
Wavelength / Wellenlänge:	N/A
Pulse duration / Pulsdauer:	N/A

Safety relevant components: (switches, temperature regulators, heating elements, plugs, sockets, wiring, capacitors, motors and other components with windings e.g. transformers, coils, emergency off devices, 2-hand-control-devices, interlock switches, safety light barriers, safety valves, programmable electronic controllers -PLC, hydraulic controllers, pneumatic controllers, Software (Revision), housing parts, materials with contact to food etc.
Components for Functional Safety shall be listed in appropriate table.
The entry of safety relevant components into this table documents and confirms review of suitability and acceptance by the product specialist.

Sicherheitsrelevante Bauteile: (Schalter, Temperaturregler, Heizkörper, Stecker, Fassungen, Leitungen, Kondensatoren, Motoren und sonstige Wicklungen z.B. Transformatoren, Magnetspulen, Not-Aus Geräte, 2-Handsteuerungen, Verriegelungsschalter, Sicherheits-Lichtschranken, Sicherheitsventile, Programmierbare Steuerungen-SPS, hydraulische Steuerungen, pneumatische Steuerungen , Software (Revisionsstand), Gehäuseteile, Materialien mit Kontakt zu Lebensmitteln usw.
Komponenten für Funktionale Sicherheit müssen in die entsprechende Tabelle eingetragen werden.
Der Eintrag sicherheitsrelevanter Komponenten in die Übersicht dokumentiert und bestätigt die Überprüfung der Eignung und Freigabe durch den „Product Specialist".

Test Report No. / Prüfbericht Nr.: 704022033104-00

Name of Project manager / Zang Xudong
Name Projektleiter:

Place / Ort: Shanghai **Date** / Datum: 2020-09-03

Name, seal and signature of Certificate Holder /
Name, Stempel und Unterschrift des Zertifikatinhabers:

Data form for electrical and electronic equipment/components

Aufbauübersicht für elektrische und elektronische Geräte/Komponenten

Safety relevant (critical) components / Sicherheitsrelevante (kritische) Komponenten

Kind of component / Bauteil	**Manufacturer / Hersteller**	**Mechanical, electrical and chemical specification / Mechanische, elektrische und chemische Spezifikation**	**Test report and/or mark from / Prüfbericht und /oder -zeichen von**
Supply cord	Jiangmen Xuzhao Metal Wire Co., Ltd.	H03VVH2; 2 x 0.75mm²	VDE 40045881
Input connector	LG CHEM LTD	LDC-D4 series	Tested with appliance Report No.: 70.410.20.331.05
Enclosure	LG CHEM LTD	LUPOYEF-1006F(m)(f1) PC; V-0; T120	Tested with appliance UL E67171
Fuse resistor	Shenzhen Dongling Electronic Co Ltd	FKN1W1W; 3.9R	Tested with appliance UL E482687
Fuse	Dongguan Better Electronics Technology Co., Ltd	250V AC:1A,2.5A	VDE 40033369
Varistor	SHENZHEN WEIDY INDUSTRIAL DEVELOPMENT CO., LTD.	V-431K-07 270VAC; T110	VDE 40045960
X capacitor	DONG GUAN AJC INDUSTRIAL CO., LTD	MKP 220nF/275VAC; T100	VDE 40045532
Alt.	SHENZHEN WEIDY INDUSTRIAL DEVELOPMENT CO., LTD.	MKP 220nF/275VAC; T100	VDE 40041066
Y capacitor	DONG GUAN AJC INDUSTRIAL CO., LTD	JT1000pF 400VAC; T100	VDE 40043090
Alt.	SHENZHEN WEIDY INDUSTRIAL DEVELOPMENT CO., LTD.	JT1000pF 400VAC; T100	VDE 40046156
Bobbin	CHANG CHUN PLASTICS CO LTD	T375J PHENOLIC; 94; V-0	Tested with appliance UL E59481
Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT	Tested with appliance UL E165111
Triple insulation wire	Huizhou Dongju Fluo Tech Plastic Co. LTD,	TIW- FXX Reinforced insulation 130°C	VDE 40047395
Teflon tube	FLUO TECH INDUSTRIES CO LTD	TFT TUBE	Tested with appliance UL E175982
PCB	KINGBOARD LAMINATES HOLDINGS LTD	FR-4 V-0,130°C	Tested with appliance UL E123995
Optocoupler in DALI PCB	Everlight Electronics Co., Ltd	EL357N MAX700V -55 ...+ 110°C	VDE 132249
Output wire	Jiaxing Yongda electric CO.,LTD	H03VV-F 2 x 0.5mm²	VDE 128617
Output connector	Shanghai Yingwang electric CO.,LTD	M11 Nylon	Tested with appliance

Test Report No. / Prüfbericht Nr.: 704022033104-00

Name of Project manager / Zang Xudong
Name Projektleiter:

Place / Ort: Shanghai **Date** / Datum: 2020-09-03

Name, seal and signature of Certificate Holder
Name, Stempel und Unterschrift des Zertifikatinhabers:

Data form for electrical and electronic equipment/components

Aufbauübersicht für elektrische und elektronische Geräte/Komponenten

Model list:

Uout: 50VDC

Model	Input current (A)	Uoutput (Vd.c.)	Irated (mA)	Prated (W)	DALI fuction	Input type
LU*100SF	0.02	30-40	100	4.3	Without DALI	With connector
LU*150SF	0.03	30-40	150	6.5	Without DALI	With connector
LU*200SF	0.04	30-40	200	8.7	Without DALI	With connector
LU*250SF	0.05	30-40	250	10.8	Without DALI	With connector
LU*300SF	0.07	30-40	300	13.0	Without DALI	With connector
LU*350SF	0.08	30-40	350	15.2	Without DALI	With connector
LU*400SF	0.09	30-40	400	17.3	Without DALI	With connector
LU*450SF	0.10	30-40	450	19.5	Without DALI	With connector
LU*500SF	0.11	30-40	500	21.7	Without DALI	With connector
LU*600SF	0.13	30-40	600	26.0	Without DALI	With connector
LU*700SF	0.15	30-40	700	30.3	Without DALI	With connector
LU*750SF	0.16	30-40	750	32.5	Without DALI	With connector
LU*800SF	0.17	30-40	800	34.7	Without DALI	With connector
LU*900SF	0.20	30-40	900	39.0	Without DALI	With connector
LU*1000SF	0.22	30-40	1000	43.3	Without DALI	With connector
LU*1100SF	0.24	30-40	1100	47.7	Without DALI	With connector
LU*1200SF	0.26	30-40	1200	52.0	Without DALI	With connector
LK*100SF	0.02	30-40	100	4.3	Without DALI	With supply cord
LK*150SF	0.03	30-40	150	6.5	Without DALI	With supply cord
LK*200SF	0.04	30-40	200	8.7	Without DALI	With supply cord
LK*250SF	0.05	30-40	250	10.8	Without DALI	With supply cord
LK*300SF	0.07	30-40	300	13.0	Without DALI	With supply cord
LK*350SF	0.08	30-40	350	15.2	Without DALI	With supply cord
LK*400SF	0.09	30-40	400	17.3	Without DALI	With supply cord
LK*450SF	0.10	30-40	450	19.5	Without DALI	With supply cord
LK*500SF	0.11	30-40	500	21.7	Without DALI	With supply cord
LK*600SF	0.13	30-40	600	26.0	Without DALI	With supply cord
LK*700SF	0.15	30-40	700	30.3	Without DALI	With supply cord
LK*750SF	0.16	30-40	750	32.5	Without DALI	With supply cord
LK*800SF	0.17	30-40	800	34.7	Without DALI	With supply cord
LK*900SF	0.20	30-40	900	39.0	Without DALI	With supply cord
LK*1000SF	0.22	30-40	1000	43.3	Without DALI	With supply cord
LK*1100SF	0.24	30-40	1100	47.7	Without DALI	With supply cord
LK*1200SF	0.26	30-40	1200	52.0	Without DALI	With supply cord
LU*200-1200D A	0.25	20-40	100-1200	Max. 50	With DALI	With connector
LU*200-1200D B		20-40	100-1200	Max. 50	With DALI	With supply cord
LU*200-1200S A		20-40	100-1200	Max. 50	Without DALI	With connector
LU*200-1200S B		20-40	100-1200	Max. 50	Without DALI	With supply cord

Test Report No. / Prüfbericht Nr.: 704022033104-00

Place / Ort: Shanghai **Date** / Datum: 2020-09-03

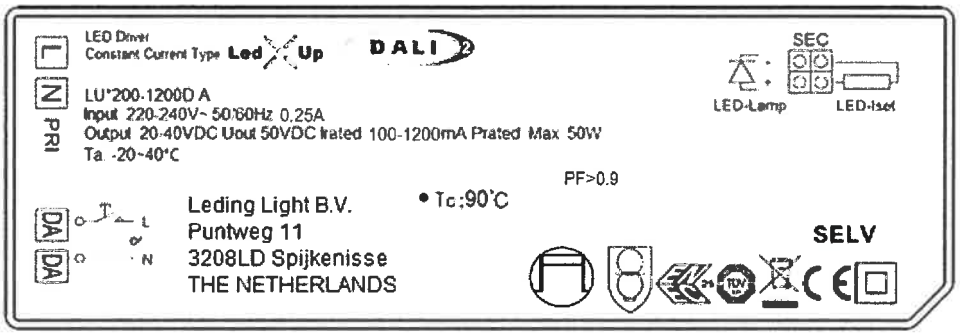
Name of Project manager / Zang Xudong
Name Projektleiter:

Name, seal and signature of Certificate Holder
Name, Stempel und Unterschrift des Zertifikatinhabers:

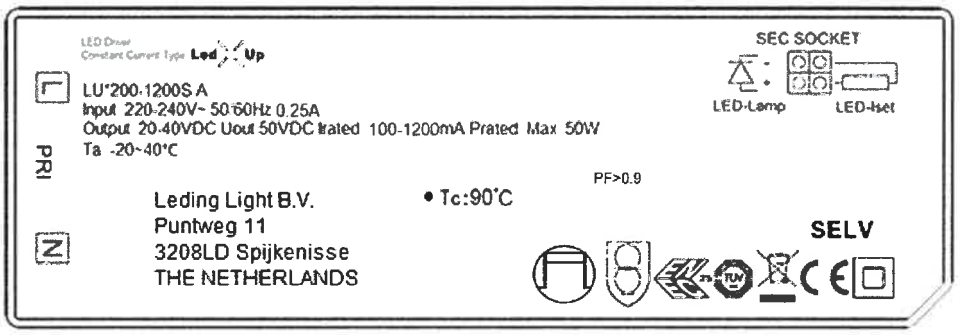
Label / Typenschild

For models:

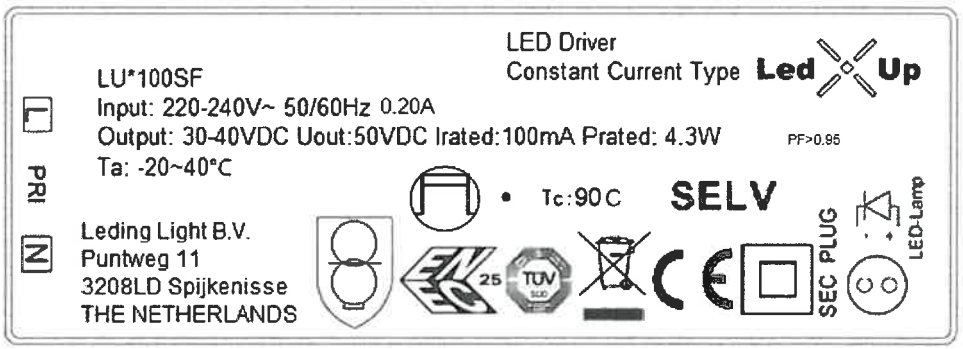
LU*200-1200D A; LU*200-1200D B:



LU*200-1200S A; LU*200-1200S B:



Other models:



Remark:

1. Height of letter and numeral not less than 2mm, graphical symbol not less than 5mm, WEEE not less than 7mm.
2. Labels for other models are the same except model number, parameters and output ways.

Test Report No. / Prüfbericht Nr.: 704022033104-00

Name of Project manager / Zang Xudong
Name Projektleiter:

Place / Ort: Shanghai

Date / Datum: 2020-09-03

Name, seal and signature of Certificate Holder
Name, Stempel und Unterschrift des Zertifikatinhabers:

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

Report Number. .....:	704022033104-00
Date of issue .....:	2020-09-03
Total number of pages.....	68
Name of Testing Laboratory preparing the Report.....:	TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
Applicant's name.....:	Leding Light B.V.
Address .....:	Puntweg 11 3208LD Spijkenisse THE NETHERLANDS
Test specification:	
Standard.....:	IEC 61347-2-13:2014/AMD1:2016 used in conjunction with IEC 61347-1:2015
Test procedure .....:	ENEC
Non-standard test method……..:	N/A
Test Report Form No.....:	IEC61347_2_13F
Test Report Form(s) Originator ....:	Intertek Semko AB
Master TRF.....:	2016-10

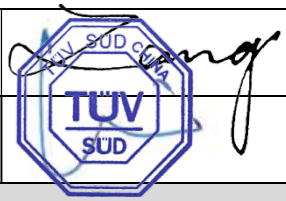
If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description .....:	Electronic controlgear for LED modules (LED Driver)
Trade Mark .....:	N/A
Manufacturer.....:	Same as applicant
Model/Type reference .....:	Refer to General product information
Ratings .....:	220-240V~; 50/60Hz; SELV; Independent; Class II; Uout: 50VDC ta: -20~40°C; tc: 90°C Other information refer to General product information

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch No.151 Heng Tong Road, Shanghai 200070, P.R. China	
Testing location/ address ..... :		No.1999, Duhui Road, Shanghai, 201108, P. R. China	
Tested by (name, function, signature) ..... :		Xudong ZANG Project Handler	
Approved by (name, function, signature) .. :		Wei SUN Designated Reviewer	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address ..... :		N/A	
Tested by (name, function, signature) ..... :		N/A	
Approved by (name, function, signature) .. :		N/A	
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address ..... :		N/A	
Tested by (name + signature) ..... :		N/A	
Witnessed by (name, function, signature) . :		N/A	
Approved by (name, function, signature) .. :		N/A	
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address ..... :		N/A	
Tested by (name, function, signature) ..... :		N/A	
Witnessed by (name, function, signature) . :		N/A	
Approved by (name, function, signature) .. :		N/A	
Supervised by (name, function, signature) :		N/A	

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

N/A

Summary of testing:

The sample's mentioned in this report is/are submitted/ supplied/ manufactured by client. The laboratory therefore assumes no responsibility for accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.

Tests performed (name of test and test clause):	**Testing location:**
Complete tests are performed on model LK*1200SF and LU*200-1200D B which model without/with DALI circuit Construction check, electric strength tests were also applied on other models. Input connector was tested accordingly by test report No.: 70.410.20.331.05-00 The test results comply with the requirements.	TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch No.1999, Duhui Road, Shanghai, 201108, P. R. China

Summary of compliance with National Differences:

Requirements for European group difference and National difference for EN 61347-2-13:2014+A1:2017 used in conjunction with EN 61347-1:2015 are taken into consideration, please refer to Appendix 1 of this report.

Copy of marking plate

(See Construction Data form for electrical equipment and machinery)

Test item particulars .....:	Electronic controlgear for LED modules (LED Driver)
Classification of installation and use.....:	Normal use
Supply Connection.....:	Supply cord or connector
.....:	Continuous operation
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 .....:	2020-04-14
Date (s) of performance of tests .....:	2020-04-14 to 2020-05-08

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

Remark:
The following contents are included and as attachments of this test report:

1) Test report IEC 61347-2-13:2014+AMD1:2016 used in conjunction with IEC 61347-1:2015
2) Appendix 1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
3) Appendix 2: Requirements of EN 60598-1:2015+AMD1:2018
4) Appendix 3: Additional requirements of EN 62384:2006+A1:2009**.**
5) Appendix 4: Photographs
6) Data form for electrical equipment and machinery

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

The application for obtaining a CB 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) ..... :	Suzhou Deli Precise Machinery Co., LTD Majia Industrial Zone,Hengjing Town, Wuzhong District 215100 Suzhou City,Jiangsu Province PEOPLE'S REPUBLIC OF CHINA

General product information:

The product is independent electronic controlgear for LED modules with constant output current.

The insulation between PRI and SEC is reinforced insulation.

The insulation between PRI and DALI is basic insulation.

The insulation between SEC and DALI is supplementary insulation.

Model	Uoutput (Vd.c.)	Irated (mA)	Prated (W)	DALI fuction	Input type	PCB	Circuit
LU*100SF	30-40	100	4.3	Without DALI	With connector	1	1
LU*150SF	30-40	150	6.5	Without DALI	With connector	1	1
LU*200SF	30-40	200	8.7	Without DALI	With connector	1	1
LU*250SF	30-40	250	10.8	Without DALI	With connector	1	1
LU*300SF	30-40	300	13.0	Without DALI	With connector	1	1
LU*350SF	30-40	350	15.2	Without DALI	With connector	1	1
LU*400SF	30-40	400	17.3	Without DALI	With connector	1	1
LU*450SF	30-40	450	19.5	Without DALI	With connector	2	1
LU*500SF	30-40	500	21.7	Without DALI	With connector	2	1
LU*600SF	30-40	600	26.0	Without DALI	With connector	2	1
LU*700SF	30-40	700	30.3	Without DALI	With connector	2	1
LU*750SF	30-40	750	32.5	Without DALI	With connector	2	1
LU*800SF	30-40	800	34.7	Without DALI	With connector	2	1
LU*900SF	30-40	900	39.0	Without DALI	With connector	2	1
LU*1000SF	30-40	1000	43.3	Without DALI	With connector	2	1
LU*1100SF	30-40	1100	47.7	Without DALI	With connector	2	1
LU*1200SF	30-40	1200	52.0	Without DALI	With connector	2	1
LK*100SF	30-40	100	4.3	Without DALI	With supply cord	1	1
LK*150SF	30-40	150	6.5	Without DALI	With supply cord	1	1
LK*200SF	30-40	200	8.7	Without DALI	With supply cord	1	1
LK*250SF	30-40	250	10.8	Without DALI	With supply cord	1	1
LK*300SF	30-40	300	13.0	Without DALI	With supply cord	1	1
LK*350SF	30-40	350	15.2	Without DALI	With supply cord	1	1
LK*400SF	30-40	400	17.3	Without DALI	With supply cord	1	1
LK*450SF	30-40	450	19.5	Without DALI	With supply cord	2	1
LK*500SF	30-40	500	21.7	Without DALI	With supply cord	2	1
LK*600SF	30-40	600	26.0	Without DALI	With supply cord	2	1
LK*700SF	30-40	700	30.3	Without DALI	With supply cord	2	1
LK*750SF	30-40	750	32.5	Without DALI	With supply cord	2	1
LK*800SF	30-40	800	34.7	Without DALI	With supply cord	2	1

LK*900SF	30-40	900	39.0	Without DALI	With supply cord	2	1
LK*1000SF	30-40	1000	43.3	Without DALI	With supply cord	2	1
LK*1100SF	30-40	1100	47.7	Without DALI	With supply cord	2	1
LK*1200SF	30-40	1200	52.0	Without DALI	With supply cord	2	1
LU*200-1200D A	20-40	100-1200	Max. 50	With DALI	With connector	3	2
LU*200-1200D B	20-40	100-1200	Max. 50	With DALI	With supply cord	3	2
LU*200-1200S A	20-40	100-1200	Max. 50	Without DALI	With connector	3	2
LU*200-1200S B	20-40	100-1200	Max. 50	Without DALI	With supply cord	3	2

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

4 (4)	**GENERAL REQUIREMENTS**		**P**
- (4)	Insulation materials according requirements in Annex N of IEC 61347-1	(see Annex N)	N/A
- (4)	Compliance of independent controlgear enclosure with IEC 60598-1		P
- (4)	Built-in electronic controlgear with double or reinforced insulation comply with Annex O of IEC 61347-1	(see Annex O)	N/A
4 (4)	SELV controlgear comply with Annex I of this part 2 and 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 controlgear ..... :	Yes ☐ No ☒	—
	Independent controlgear ..... :	Yes ☒ No ☐	—
	Integral controlgear ..... :	Yes ☐ No ☒	—
6 (-)	Auto-wound controlgear ..... :	Yes ☐ No ☒	—
	Separating controlgear ..... :	Yes ☐ No ☒	—
	Isolating controlgear ..... :	Yes ☒ No ☐	—
	SELV controlgear ..... :	Yes ☒ No ☐	—

7 (7)	**MARKING**		**P**
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)		P
	supply frequency (Hz)		P
	supply current (A)		P
	f) earthing symbol		N/A
	k) wiring diagram		P
	l) value of tc		P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	m) symbol for declared temperature		N/A
	t) LUM earthing symbol		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) ..... :		N/A
	- rated output voltage U_{rated} (V) ..... :		N/A
	Constant current type:	Yes ☒ No ☐	—
	- rated output power P_{rated} (W) ..... :	Refer to General product information	P
	- rated output current I_{rated} (A) ..... :	Refer to General product information	P
	Indication if for LED modules only		P
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 of protection against accidental contact		N/A
	i) cross-section of conductors (mm²)		P
	j) number, type and wattage of lamp(s)		N/A
	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		P
- (A2)	Voltage measured with 50 kΩ	(see Annex A)	P
- (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		P
	Adequate mechanical strength on parts providing protection		P
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V .....:	6V	P

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Clause	Requirement + Test	Result - Remark	Verdict
- (10.3)	**Controlgear providing SELV**		**P**
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV controlgear		N/A
	No connection between output circuit and the body or protective earthing circuit		N/A
	No possibility of connection between output circuit and the body or protective earthing circuit through other conductive parts		N/A
	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	(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.		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**		**P**
	Screw terminals according section 14 of IEC 60598-1:		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the controlgear	(see Annex 2)	N/A
	Screwless terminals according section 15 of IEC 60598-1:		P
	Separately approved; component list	(see Annex 1)	P
	Part of the controlgear	(see Annex 3)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

10 (9)	**PROVISION FOR PROTECTIVE EARTHING**		**N/A**
- (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
	All parts of material minimizing the danger of electrolytic corrosion		N/A
	Made of brass or equivalent material		N/A
	Contact surface bare metal		N/A
	Test according 7.2.3 of IEC 60598-1		N/A
- (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**		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 of IEC 60598-1		N/A
- (9.5.2)	Earthing of the lamp compartments powered via the independent lamp controlgear		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 ..... :	>199 MΩ	P
	For double or reinforced insulation ≥ 4 MΩ ..... :	>199 MΩ	P
	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1		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	500	P
	Working voltage ≤ 50 V, test voltage 500 V		P
	Working voltage > 50 V ≤ 1000 V, test voltage (V):		P
	Basic insulation, 2U + 1000 V	1480	P
	Supplementary insulation, 2U + 1000 V	1480	P
	Double or reinforced insulation, 4U + 2000 V	2960	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		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	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)	(see appended table)	P
- (14.3)	Short-circuit or interruption of semiconductor devices	(see appended table)	N/A
- (14.4)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A
- (14.5)	Short-circuit across electrolytic capacitors	(see appended table)	P
14 (-)	Reversed voltage polarity if d.c. supplied control gear	(see appended table)	N/A
- (14.6)	After the tests has been carried out on three samples:		P
	The insulation resistance ≥ 1 MΩ ..... :	>199 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
- (14.7)	Relevant fault condition tests with high-power a.c. supply		—
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		P
	Output voltage of SELV controlgear not exceed limits in 10.4 of IEC 61347-1 during the test of 15.1 and 15.2		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		P
	Double LED modules or equivalent load connected in parallel to the output terminals of constant voltage type		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Double LED modules or equivalent load connected in parallel to the output terminals of constant current type		P
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
	- safety isolating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- controlgear providing SELV in accordance with relevant part 2 of IEC 61347		P
	- another source		N/A
	Voltage in the circuit not higher than ELV		P
	SELV circuits insulated from LV by double or reinforced insulation		P

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Clause	Requirement + Test	Result - Remark	Verdict
	SELV circuits insulated from non SELV circuits by double or reinforced insulation		P
	SELV circuits insulated from FELV circuits by supplementary insulation		P
	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		N/A
- (15.4.3)	FELV circuits		P
	Source used to supply FELV circuits:		P
	- 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		P
	- 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		P
	FELV circuits insulated from LV supply by at least basic insulation		P
	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
	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		N/A
	Accessible conductive parts insulated from active parts of electric circuits by insulating according Table 6		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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)	Creepage distances and clearances according to 16.2 and 16.3		P
	Controlgears providing SELV comply with additional requirements in Annex L		P
	Insulating lining of metallic enclosures		N/A
	Controlgear protected against pollution comply with Annex P	(see 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)	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)	N/A
- (16.3)	**Clearances**		**P**
- (16.3.2)	Clearances for working voltages		P
	Clearances distances according to Table 9	(see appended table)	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)	N/A
	Clearances distances for reinforced insulation according to Table 11	(see appended table)	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
(4.11)	**Electrical connections**		**P**
(4.11.1)	Contact pressure		P
(4.11.2)	Screws:		N/A
	- self-tapping screws		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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 ..... :	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 ..... :	See Test Table 19 (18.1)	P
- (18.2)	Test of printed boards ..... :	See Test Table 19 (18.2)	P
- (18.3)	Glow-wire test ..... :	See Test Table 19 (18.3)	P
- (18.4)	Needle flame test ..... :	See Test Table 19 (18.4)	P
- (18.5)	Tracking test ..... :	See Test Table 19 (18.5)	N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

14	**TABLE: tests of fault conditions**	**P**
Part	Simulated fault (on different circuit)	Hazard
Circuit 1		
	Short-circuit	
CY1	Not work; unrecovered	NO
C11	Not work; unrecovered	NO
CX2	Not work; unrecovered	NO
CX3	Not work; unrecovered	NO
C10	Not work; unrecovered	NO
L1	Not work; unrecovered	NO
D12	Not work; unrecovered	NO
D14	Not work; unrecovered	NO
D15	Not work; unrecovered	NO
D6	Not work; unrecovered	NO
D1	Not work; unrecovered	NO
Output	Not work; recovered; 264V/0.05A/2.47W	NO
	Open-circuit	
R4	Not work; recovered	NO
R17	Work; unrecovered; 240V/0.27A/5.17W	NO
Output	Not work; recovered	NO
	Double loaded	
Output	264V/0,15A/29,5W	NO
Circuit 2		
	Short-circuit	
CX1	Not work; unrecovered	NO
CX2	Not work; unrecovered	NO
C1	Not work; unrecovered	NO
C2	Not work; unrecovered	NO
C27	Not work; unrecovered	NO
C28	Not work; unrecovered	NO
CY1	Not work; unrecovered	NO
CY2	Not work; unrecovered	NO
C23	Not work; recovered	NO
C19	Not work; recovered	NO

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Clause	Requirement + Test	Result - Remark	Verdict

C13	Not work; unrecovered	NO
C16	Not work; unrecovered	NO
D1	Work	NO
D6	Not work; recovered	NO
D7	Not work; recovered	NO
Output	264V/0.04A/0.94W	NO
	Open-circuit	
R8	Work	NO
R45	Work	NO
R35	Work	NO
R36	Work	NO
R40	Work	NO
R48	Work	NO
R51	Work	NO
Output	Not work; recovered	NO
	Double loaded	
Output	264V/0.14A/32.3W	NO

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**
Distance 1:	B	>1,65	1,5	9	3,2	2,5	7
Working voltage (V) ..... :					240V		—
Frequency if applicable (kHz) ..... :					N/A		—
PTI ..... :					< 600 ☒	≥ 600 ☐	—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					N/A		—
Pulse voltage if applicable (kV) ..... :					N/A		—
Supplementary information: Different polarity of input							
Distance 2:	R	>4,5	3,0	9	>6,5	5,0	7
Working voltage (V) ..... :					240V		—
Frequency if applicable (kHz) ..... :					N/A		—
PTI ..... :					< 600 ☒	≥ 600 ☐	—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					N/A		—

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Clause	Requirement + Test	Result - Remark	Verdict

Pulse voltage if applicable (kV) ..... :					N/A		—
Supplementary information: Input to enclosure							
Distance 3:	B	>0,26	0,2	9	>1,56	1,2	7
Working voltage (V) ..... :					50V		—
Frequency if applicable (kHz) ..... :					N/A		—
PTI ..... :					< 600 ☒	≥ 600 ☐	—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					N/A		—
Pulse voltage if applicable (kV) ..... :					N/A		—
Supplementary information: Output to enclosure							
Distance 4:	R	>3,9	3,0	Annex L	5,6	5,0	Annex L
Working voltage (V) ..... :					240V		—
Frequency if applicable (kHz) ..... :					N/A		—
PTI ..... :					< 600 ☒	≥ 600 ☐	—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					N/A		—
Pulse voltage if applicable (kV) ..... :					N/A		—
Supplementary information: PRI circuit to SEC circuit							
Distance 5:	B	>1,65	1,5	9	3,2	2,5	7
Working voltage (V) ..... :					240V		—
Frequency if applicable (kHz) ..... :					N/A		—
PTI ..... :					< 600 ☒	≥ 600 ☐	—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					N/A		—
Pulse voltage if applicable (kV) ..... :					N/A		—
Supplementary information: PRI circuit to DALI circuit							
Distance 6:	S	>1,65	1,5	9	3,2	2,5	7
Working voltage (V) ..... :					240V		—
Frequency if applicable (kHz) ..... :					N/A		—
PTI ..... :					< 600 ☒	≥ 600 ☐	—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					N/A		—
Pulse voltage if applicable (kV) ..... :					N/A		—
Supplementary information: SEC circuit to DALI circuit							

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

19 (18.1)	**TABLE: Ball Pressure Test**	**P**
Allowed impression diameter (mm) ..... :	2,0	—

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Clause	Requirement + Test	Result - Remark	Verdict

Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
Enclosure	Refer to CDF	125	1,2
PCB	Refer to CDF	125	1,1
Input connector	Refer to CDF	125	1,2
Output connector	Refer to CDF	125	1,3
Bobbin	Refer to CDF	125	1,0
Supplementary information:			

19 (18.2)	**TABLE: Test of printed boards**				**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
PCB	Refer to CDF	0	No	0	P
Supplementary information:					

19 (18.3)	**TABLE: Glow-wire test**			**P**
Glow wire temperature..... :	650°C			—
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
Enclosure	Refer to CDF	No	0	P
Insulation tape	Refer to CDF	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
Enclosure	Refer to CDF	0	No	0	P
PCB	Refer to CDF	0	No	0	P
Input connector	Refer to CDF	0	No	0	P

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Clause	Requirement + Test	Result - Remark	Verdict

Output connector	Refer to CDF	0	No	0	P
Bobbin	Refer to CDF	0	No	0	P
Supplementary information:					

19 (18.5)	**TABLE: Proof tracking test**				**N/A**
Test voltage PTI ..... :		175 V			—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

(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 ..... :	50 VDC	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
	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

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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 14.2 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
	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		P

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Clause	Requirement + Test	Result - Remark	Verdict
(H)	**ANNEX H - TESTS**		P
	All tests performed in accordance with the advice given in Annex H, if applicable		P
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		P
(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		P
	Value if capacitor t_c marked ..... :	Refer to ANNEX 1	—
	Winding insulation classified as Class ..... :	B	—
	Comply with tests of clause 14 of IEC 61558-1 with adjustments		P
(L.7)	**Short-circuit and overload protection**		**P**
	Comply with tests of clause 15 of IEC 61558-1 with adjustments		P
(L.8)	**Insulation resistance and electric strength**		**P**
(L.8.1)	Conditioned 48 h between 91 % and 95 %		P
(L.8.2)	Insulation resistance		P
	Between input- and output circuits not less than 5 MΩ ..... :	>199 MΩ	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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		P
	1) Between live parts of input circuits and live parts of output circuits ..... :	3000	P
	2) Over basic or supplementary insulation between:		P
	a) live parts having different polarity ..... :	1500	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
	f) each input circuit and all other input circuits ... :		N/A
	3) Over reinforced insulation between the body and live parts ..... :	3000	P
(L.9)	**Construction**		**P**
(L.9.1)	Transformer comply with 19.12 of IEC 61558-1 and 19 of IEC 61558-2-6		P
	HF transformer comply with 19 of IEC 61558-2-16		P
(L.10)	**Components**		**P**
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1		P
(L.11)	**Creepage distances, clearances and distances through insulation**		**P**
	Creepage distances and clearances not less than in Clause 16		P
	Distance through insulation according Table L.5 in IEC 61347-1		N/A
	1) Basic distance through insulation		N/A
	Required distance (mm) ..... :		—
	Measured (mm) ..... :		N/A
	Supplementary information		—
	2) Supplementary distance through insulation		N/A
	Required distance (mm) ..... :	0,13	—
	Measured (mm) ..... :	0,15	N/A
	Supplementary information		—
	3) Reinforced distance through insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Required distance (mm) ..... :		—
	Measured (mm) ..... :		N/A
	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
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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**		**N/A**
(N.4)	**General requirements**		**N/A**
(N.4.1)	Material comply with IEC 60085 and IEC 60216 series		N/A
(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**		**N/A**
(N.4.3.1)	Thickness and composition of thin sheet insulation		N/A
	- Inside the ballast and not subjected to handling or abrasion during the production and during maintenance		N/A
	- 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		N/A
(N.4.3.2)	Mandrel test (electric strength test during mechanical stress)		N/A
	Electric strength test after mandrel test:		N/A
	- 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		N/A
	No flashover or breakdown occurred		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

(O)	**ANNEX O: ADDITIONAL REQUIREMENTS FOR BUILT-IN ELECTRONIC CONTROLGEAR WITH DOUBLE OR REINFORCED INSULATION**		**N/A**
(O.6)	**Marking**		**N/A**
	Marking according clause 7 (7)	See clause 7	N/A
	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)	See clause 8	N/A
	Test finger not possible to make contact with basic insulated metal parts		N/A
(O.8)	**Terminals**		**N/A**
	Clause 9 (8)	See clause 9	N/A
(O.9)	**Provision for earthing**		**N/A**
	Functional earthing terminals comply with clause 9 of part 1		N/A
	No protective earthing terminal		N/A
(O.10)	**Moisture resistance and insulation**		**N/A**
	Clause 11 (11)	See clause 11	N/A
(O.11)	**Electric strength**		**N/A**
	Clause 12 (12)	See clause 12	N/A
(O.13)	**Fault conditions**		**N/A**
	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**		**N/A**
	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

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Clause	Requirement + Test	Result - Remark	Verdict

(O.15)	**Creepage distances and clearances**		**N/A**
	Clause 18 (16)	See clause 18	N/A
	Comply with corresponding values for luminaries in IEC 60598-1		N/A
(O.16)	**Screws, current-carrying parts and connections**		**N/A**
	Clause 19 (17)	See clause 19	N/A
(O.17)	**Resistance to heat and fire**		**N/A**
	Clause 20 (18)	See clause 20	N/A
(O.18)	**Resistance to corrosion**		**N/A**
	Clause 21 (19)	See clause 21	N/A

(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 ..... :		—
	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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		—

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 1	TABLE: Critical components information (Refer to Data form for electrical equipment and machinery)					P
Object / part No.	**Code**	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
Description:						
Description:						
Description:						

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 authorised by the test house

C - Integrated component tested together with the appliance

D - Alternative component

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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 ..... :	N/A	—
	Rated current (A) ..... :	N/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)..... :	M	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

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 3	**Screwless terminals (part of the luminaire)**		**P**
(15)	**SCREWLESS TERMINALS**		**P**
(15.2)	Type of terminal	Output connector	—
	Rated current (A)	2	—
(15.3.1)	Material		P
(15.3.2)	Clamping		P
(15.3.3)	Stop		P
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		P
(15.3.6)	Clear connection method		P
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		P
(15.3.10)	Conductor size		P
	Type of conductor		P
(15.5)	Terminals and connections for internal wiring		P
(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		P
(15.6.1)	Conductors		P
	Terminal size and rating		P

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Clause	Requirement + Test	Result - Remark	Verdict

15.6.2	Mechanical tests		P
(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)	8	P
(15.6.3)	Electrical tests		P
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1		P

(15.6.3.1) (15.6.3.2)	**TABLE: Contact resistance test / Heating tests**									P
	Voltage drop (mV) after 1 h									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	4,0	4,1	4,0	4,2	4,1	4,2	4,1	4,0	4,2	4,1
	Voltage drop of two inseparable joints									P
	Voltage drop after 10th alt. 25th cycle									P
	Max. allowed voltage drop (mV) ..... :	30								—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	4,2	4,2	4,3	4,3	4,3	4,4	4,3	4,2	4,3	4,4
	Voltage drop after 50th alt. 100th cycle									N/A
	Max. allowed voltage drop (mV) ..... :	N/A								—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 10th alt. 25th cycle									P
	Max. allowed voltage drop (mV) ..... :	45								—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	4,4	4,3	4,3	4,2	4,4	4,4	4,5	4,2	4,4	4,6
	Continued ageing: voltage drop after 50th alt. 100th cycle									N/A
	Max. allowed voltage drop (mV) ..... :	N/A								—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
Supplementary information:										

Appendix 1 - EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES			
Clause	Requirement + Test	Result - Remark	Verdict

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

	CENELEC COMMON MODIFICATIONS (EN)	**P**
	No Common modifications	P

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.13	**Mechanical strength**		**P**
4.13.1	Impact tests:		P
	- fragile parts; energy (Nm).....		P
	- other parts; energy (Nm).....	Enclosure; 0,5	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		N/A

5	**EXTERNAL AND INTERNAL WIRING**		P
5.2	**Supply connection and external wiring**		**P**
5.2.1	Means of connection.....	Supply cord or connector	P
	Outdoor luminaire has not PVC insulated external wiring if not class III or SELV ≤ 25 V a.c./60 V d.c. or protected from outdoor environment		N/A
5.2.2	Type of cable	PVC	P
	Nominal cross-sectional area (mm²).....	Refer to CDF	P
	Cables equal to IEC 60227 or IEC 60245		N/A
5.2.3	Type of attachment, X, Y or Z	Supply cord input: Type Z	P
5.2.5	Type Z not connected to screws		P
5.2.6	Cable entries:		N/A
	- suitable for introduction		N/A
	- adequate degree of protection		N/A
5.2.7	Cable entries through rigid material have rounded edges		N/A
5.2.8	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
5.2.9	Locking of screwed bushings		N/A
5.2.10	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
5.2.10.1	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
5.2.10.2	Adequate cord anchorage for type Y and type Z attachment		P
5.2.10.3	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)	60N	P
	- torque test: torque (Nm).....	0,15Nm	P
	- displacement ≤ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
5.2.11	External wiring passing into luminaire		N/A
5.2.12	Looping-in terminals		N/A
5.2.13	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
5.2.14	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
5.2.16	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A
5.2.17	No standardized interconnecting cables properly assembled		N/A

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.18	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
5.3	**Internal wiring**		N/A
5.3.1	Internal wiring of suitable size and type		N/A
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A)		N/A
	- temperatures	(see Annex 2)	N/A
	Green-yellow for earth only		N/A
5.3.1.1	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm²)		N/A
	Insulation thickness		N/A
	Extra insulation added where necessary		N/A
5.3.1.2	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Adequate cross-sectional area and insulation thickness		N/A
5.3.1.3	Double or reinforced insulation for class II		N/A
5.3.1.4	Conductors without insulation		N/A
5.3.1.5	SELV current-carrying parts		N/A
5.3.1.6	Insulation thickness other than PVC or rubber		N/A
5.3.2	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
5.3.3	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
5.3.4	Joints and junctions effectively insulated		N/A
5.3.5	Strain on internal wiring		N/A
5.3.6	Wire carriers		N/A

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.7	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
9	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		P
-	If IP > IP 20 the order of tests as specified in clause 1.12		P
9.2	Tests for ingress of dust, solid objects and moisture:		—
	- classification according to IP.....	IP20	—
	- mounting position during test.....	Normal mounting position	—
	- fixing screws tightened; torque (Nm)	N/A	—
	- tests according to clauses.....	9.2.0	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or on insulation 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
12	**ENDURANCE TEST AND THERMAL TEST**		P
-	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 4.13		—
12.3	Endurance test:		P
	- mounting-position	Normal mounting position	—
	- test temperature (°C)	60	—
	- total duration (h).....	240	—
	- supply voltage: Un factor; calculated voltage (V) ..	1,1×240=264V~	—

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- lamp used	N/A	—
12.3.2	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
12.4	Thermal test (normal operation)	(see Annex 2)	P
12.5	Thermal test (abnormal operation)	(see Annex 2)	P

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Type reference ..... :	LK*1200SF	—
	Lamp used ..... :	/	—
	Lamp control gear used ..... :	N/A	—
	Mounting position of luminaire ..... :	Normal position	—
	Supply wattage (W)..... :	54,4 W	—
	Supply current (A) ..... :	0,29	—
	Calculated power factor ..... :	0,91	—
	Table: measured temperatures corrected for ta = 40 °C:		
	- abnormal operating mode..... :	Short-circuit output	—
	- test 1: rated voltage ..... :	N/A	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage ..... :	240V × 1,06 = 254,4V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	N/A	—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage ..... :	240V × 1,1 = 264V	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	N/A	—

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Supply cord	-	30,4	-	90	-	-
Internal wire	-	35,4	-	Ref.	-	-
Tc	-	64,0	-	90	-	-
Output wire	-	43,4	-	90	-	-
Input connector	-	33,7	-	Ref.	-	-
Output connector	-	26,6	-	Ref.	-	-
C11	-	71,3	-	105	-	-
C32	-	79,4	-	105	-	-
PCB	-	78,0	-	Ref.	-	-
Bobbin/Winding	-	98,6	-	130	31,0	175
CX1	-	59,7	-	100	-	-
CX2	-	81,3	-	100	-	-
CX3	-	85,9	-	100	-	-
CX4	-	83,9	-	100	-	-

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

CX5	-	92,3	-	100	-	-
C10	-	90,0	-	100	-	-
L1	-	83,4	-	100	-	-
Mounting surface	-	71,3	-	90	30,8	105

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Type reference ..... :	LK*1200SF	—
	Lamp used ..... :	/	—
	Lamp control gear used ..... :	N/A	—
	Mounting position of luminaire ..... :	Normal position	—
	Supply wattage (W)..... :	54,1	—
	Supply current (A) ..... :	0,28	—
	Calculated power factor ..... :	0,93	—
	Table: measured temperatures corrected for ta = 40 °C:		
	- abnormal operating mode..... :	Double loaded	—
	- test 1: rated voltage ..... :	N/A	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage ..... :	220V × 0,94 = 206,8V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	N/A	—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage ..... :	240V × 1,1 = 264V	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	N/A	—

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Supply cord	-	36,0	-	90	-	-
Internal wire	-	34,6	-	Ref.	-	-
Tc	-	57,0	-	90	-	-
Output wire	-	39,2	-	90	-	-
Input connector	-	26,9	-	Ref.	-	-
Output connector	-	32,4	-	Ref.	-	-
C11	-	23,9	-	105	-	-
C32	-	67,2	-	105	-	-
PCB	-	74,8	-	Ref.	-	-
Bobbin/Winding	-	74,4	-	130	67,7	175
CX1	-	95,1	-	100	-	-
CX2	-	61,7	-	100	-	-
CX3	-	81,6	-	100	-	-
CX4	-	87,3	-	100	-	-

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

CX5	-	91,2	-	100	-	-
C10	-	89,6	-	100	-	-
L1	-	94,2	-	100	-	-
Mounting surface	-	69,1	-	90	49,7	130

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Type reference ..... :	LU*200-1200D B	—
	Lamp used ..... :	/	—
	Lamp control gear used ..... :	N/A	—
	Mounting position of luminaire ..... :	Normal position	—
	Supply wattage (W)..... :	56,4	—
	Supply current (A)..... :	0,24	—
	Calculated power factor ..... :	0,91	—
	Table: measured temperatures corrected for ta = 40 °C:		
	- abnormal operating mode..... :	Short-circuit output	—
	- test 1: rated voltage ..... :	N/A	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage ..... :	240V × 1,06 = 254,4V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	N/A	—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage ..... :	240V × 1,1 = 264V	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	N/A	—

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Supply cord	-	37,1	-	90	-	-
Tc	-	71,4	-	90	-	-
Input connector	-	32,0	-	Ref.	-	-
Output wire	-	28,0	-	90	-	-
Output connector	-	26,2	-	Ref.	-	-
CX1	-	57,2	-	110	-	-
CX2	-	78,2	-	110	-	-
L1	-	74,3	-	110	-	-
C1	-	85,8	-	105	-	-
C2	-	90,4	-	105	-	-
C27	-	113,1	-	130	-	-
Bobbin/Winding	-	101,1	-	130	31,0	175
PCB	-	85,5	-	Ref.	-	-

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

RV1	-	88,1	-	110	-	-
RV2	-	89,3	-	110	-	-
C23	-	84,7	-	105	-	-
C19	-	79,2	-	105	-	-
C13	-	69,1	-	105	-	-
C16	-	65,4	-	105	-	-
Mounting surface	-	76,4	-	90	30,8	105

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Type reference ..... :	LU*200-1200D B	—
	Lamp used ..... :	/	—
	Lamp control gear used ..... :	N/A	—
	Mounting position of luminaire ..... :	Normal position	—
	Supply wattage (W)..... :	52,4	—
	Supply current (A) ..... :	0,28	—
	Calculated power factor ..... :	0,92	—
	Table: measured temperatures corrected for ta = 40 °C:		
	- abnormal operating mode..... :	Double loaded	—
	- test 1: rated voltage ..... :	N/A	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage ..... :	220V × 0,94 = 206,8V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	N/A	—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage ..... :	240V × 1,1 = 264V	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	N/A	—

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Supply cord	-	39.2	-	90	-	-
Tc	-	71.6	-	90	-	-
Input connector	-	31.4	-	Ref.	-	-
Output wire	-	27.7	-	90	-	-
Output connector	-	31.4	-	Ref.	-	-
CX1	-	61.1	-	110	-	-
CX2	-	84.7	-	110	-	-
L1	-	89.2	-	110	-	-
C1	-	94.2	-	105	-	-
C2	-	96.8	-	105	-	-
C27	-	115.9	-	130	-	-
Bobbin/Winding	-	101.9	-	130	67,7	175
PCB	-	86.5	-	Ref.	-	-
RV1	-	88.2	-	110	-	-

Appendix 2: Requirements of EN 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

RV2	-	89.8	-	110	-	-
C23	-	84.0	-	105	-	-
C19	-	77.3	-	105	-	-
C13	-	68.7	-	105	-	-
C16	-	64.9	-	105	-	-
Mounting surface	-	75.3	-	90	49,7	105

Appendix 3 - Additional requirements of EN 62384			
Clause	Requirement + Test	Result - Remark	Verdict

5	**CLASSIFICATION**		P
5.1	Classification according to the load		P
	a) Single value load control gear..... :	Yes ☒ No ☐	P
	b) Multiple value load control gear ..... :	Yes ☐ No ☒	N/A
5.2	Classification according to the output voltage		P
	a) Control gear with stabilized output voltage..... :	Yes ☐ No ☒	N/A
	b) Control gear without stabilized output voltage ... :	Yes ☒ No ☐	P
5.3	Classification according to the output current		P
	a) Control gear with stabilized output current ..... :	Yes ☒ No ☐	P
	b) Control gear without stabilized output current .... :	Yes ☐ No ☒	N/A

6	**MARKING**		P
6.1	Mandatory marking		P
6.1.1	Circuit power factor..... :	>0,9 for PCB3 >0.95 for PCB1; PCB2	P
6.1.2	a) temperature range..... :		N/A
	b) stabilized output voltage..... :		N/A
	c) stabilized output current ..... :	Constant current type	P
	d) operation with a mains supply dimmer ..... :		N/A
	e) operation mode..... :	Single phase	P
6.2	Optional markings		P
	Total circuit power..... :	Refer to model list	P
	b) Z symbol ..... :		N/A
	c) short-circuit proof type control gear. ..... :		N/A

7	**OUTPUT VOLTAGE AND CURRENT**		P
7.1	Starting and connecting requirements		P
	The output should be within 110% of the rated value within 2 s		P
7.2	Voltage and current during operation		P
	- For non-stabilized output voltage, when supplied with the rated supply voltage, the output voltage shall not differ by more than ±10% of the rated voltage		P

Appendix 3 - Additional requirements of EN 62384			
Clause	Requirement + Test	Result - Remark	Verdict
	- For stabilized output voltage, when supplied between 92% and 106% of the rated supply voltage, the output voltage shall not differ by more than ±10 % of the rated value		N/A
	- For non-stabilized output current, when supplied with the rated supply voltage, the output current shall not differ by more than ±10% of the rated voltage		N/A
	- For stabilized output current, when supplied between 92% and 106% of the rated supply voltage, the output current shall not differ by more than ±10 % of the rated value		P
7.3	Capacitive load requirement		N/A
(A.2 fig. A.1a)	- The LED module or any additional control unit shall not disturb the control gear overcurrent detection		N/A
(A.2 fig. A.1b)	- The LED module or any additional control unit shall not disturb the starting process of the control gear		N/A
7.4	Voltage surges during switching and operation		N/A
	Voltage surges superimposed on the output voltage shall not exceed the values ..... :	Under consideration	N/A
8	**TOTAL CIRCUIT POWER**		P
	The total circuit power shall not be more than 110% of the value declared by the manufacturer		P
9	**CIRCUIT POWER FACTOR**		P
	The measured circuit power factor shall not differ from the marked value by more than 0,05		P
10	**SUPPLY CURRENT**		P
	The supply current shall not differ by more than +10% from the marked value		P
11	**IMPEDANCE AT AUDIO –FREQUENCIES (Appendix A, A.3)**		N/A
	Audio frequency impedance (400 Hz - 2000 Hz)		N/A
12	**OPERATIONAL TESTS FOR ABNORMAL CONDITIONS**		P
	a) without LED module(s) inserted		P

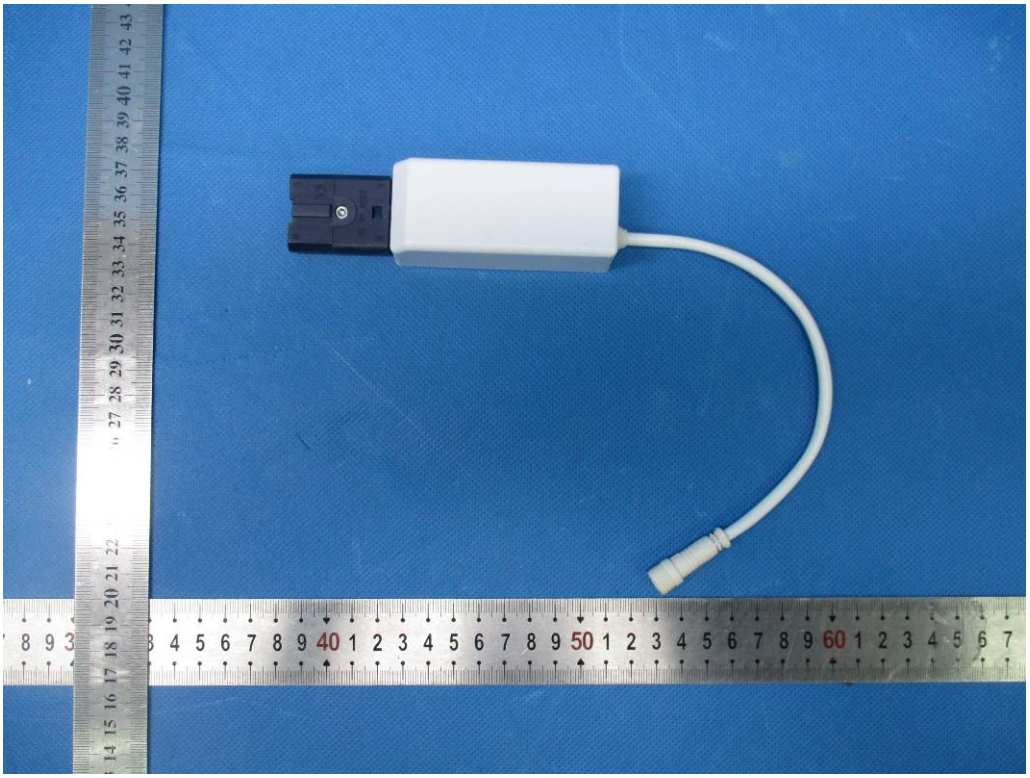
Appendix 3 - Additional requirements of EN 62384			
Clause	Requirement + Test	Result - Remark	Verdict
	at the end of this test the lamps(s) shall operate normally		P
	b) test for reduced LED module resistance	Under consideration	N/A
	c) Short-circuit proof control gear		P
	After the tests and after restoration of a protecting device, function normally		P

13	**ENDURANCE**		—
13.1	a) temperature cycling shock test ..... :	-40°C and 90°C	P
	5 cycles are carried out		P
	b) supply voltage switching test ..... :	200 times with no load and 800 times with maximum load	P
	1000 cycles are carried out		P
13.2	The control gear shall then be operated at rated supply voltage and in ambient temperature which produces tc, until a test period of 200 h has elapsed		P
	at the end of this time the ballast shall correctly start and operate for 15 min		P

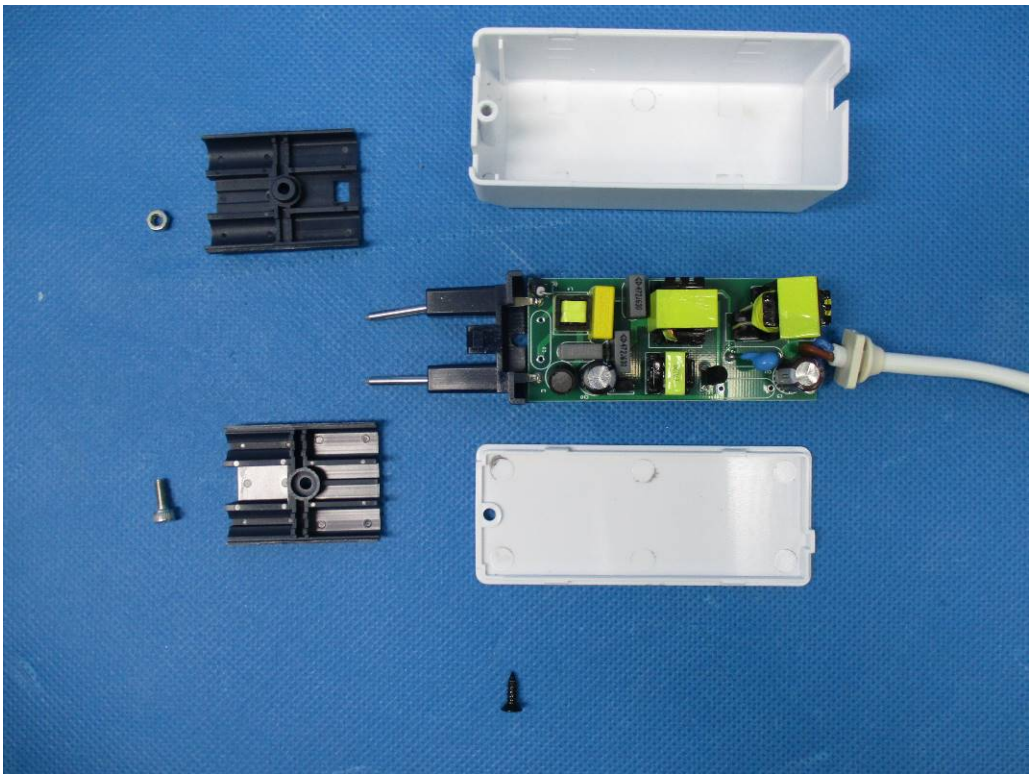
11	**TABLE: audio frequency impedance (400 Hz – 2000 Hz)**			N/A
fr (Hz)	Ur (V)	fs (Hz)	Z (Ω)	Remarks
supplementary information:				

11	**TABLE: audio frequency impedance (250 Hz – 400 Hz)**			N/A
fr (Hz)	Ur (V)	fs (Hz)	Z (Ω)	Remarks
supplementary information:				

Appendix 4 - Photographs

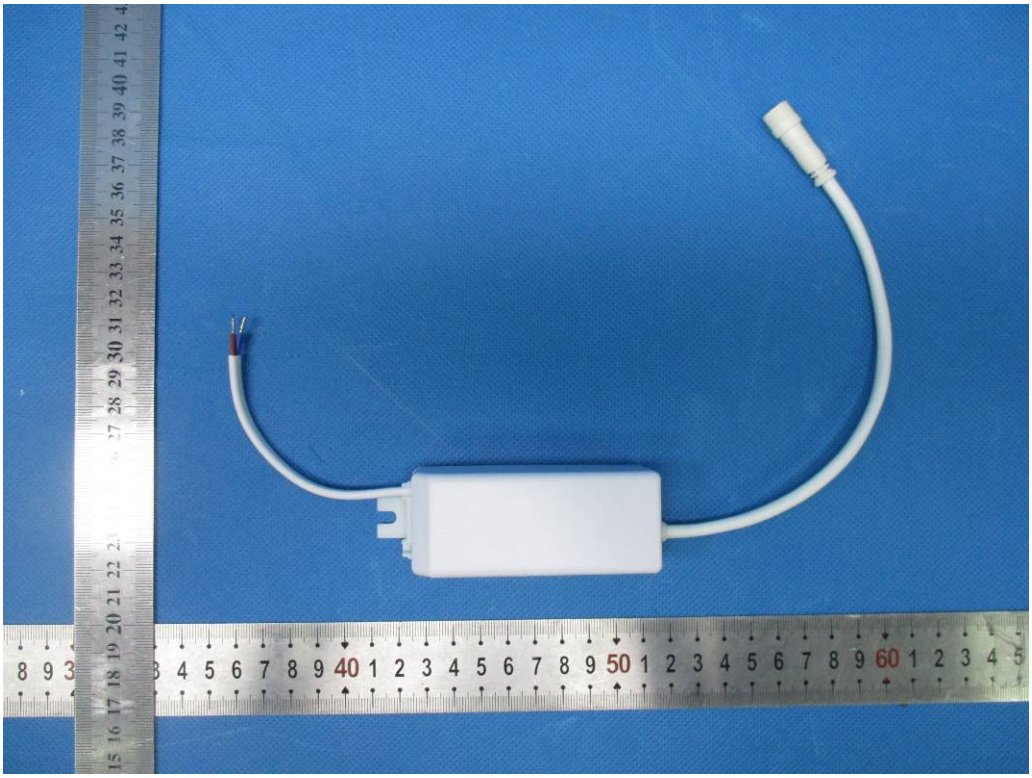


Models with connector except models: LU*200-1200D A; LU*200-1200D B; LU*200-1200S A; LU*200-1200S B

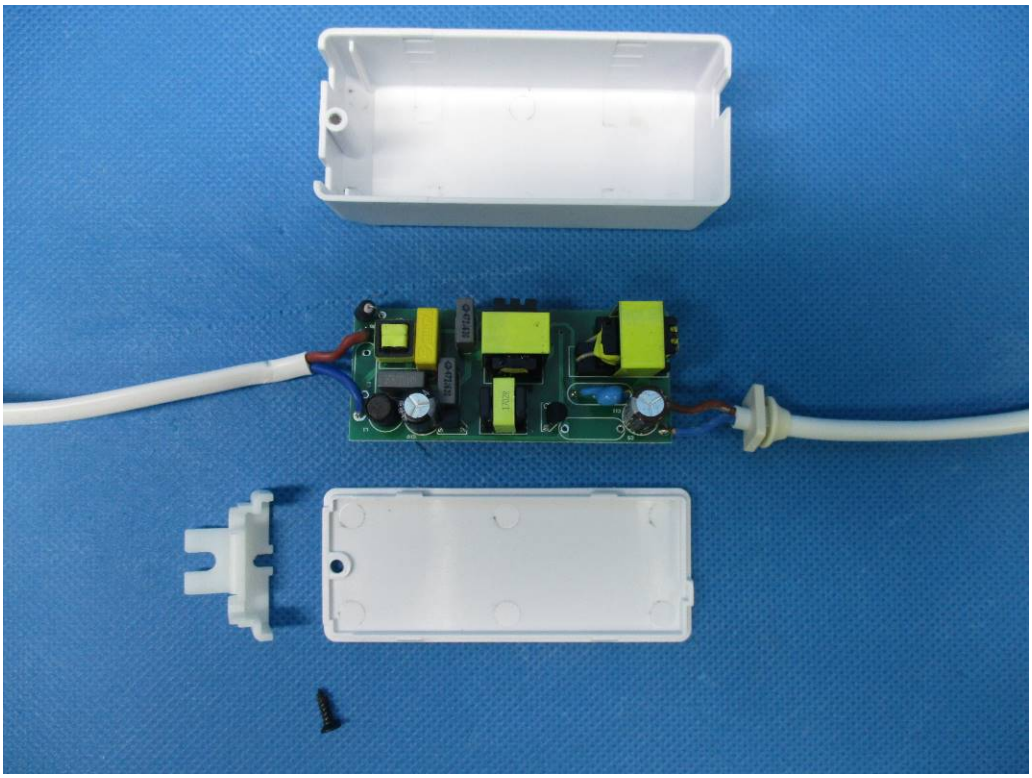


Internal view

Appendix 4 - Photographs

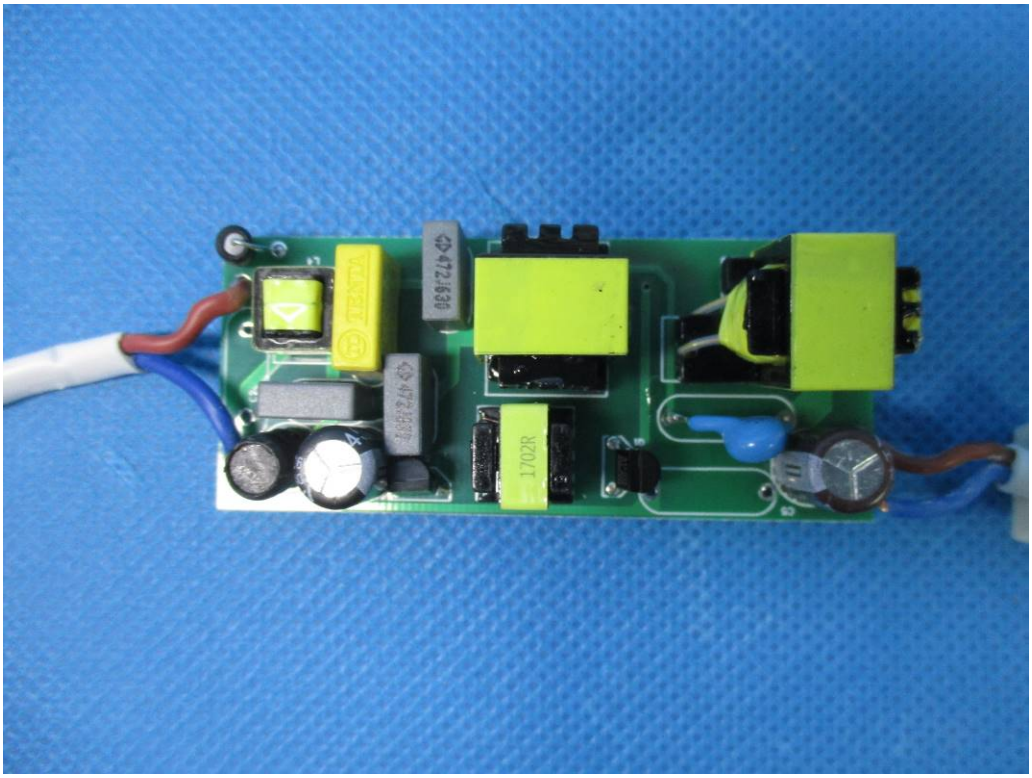


Models with supply cord except models: LU*200-1200D A; LU*200-1200D B; LU*200-1200S A; LU*200-1200S B

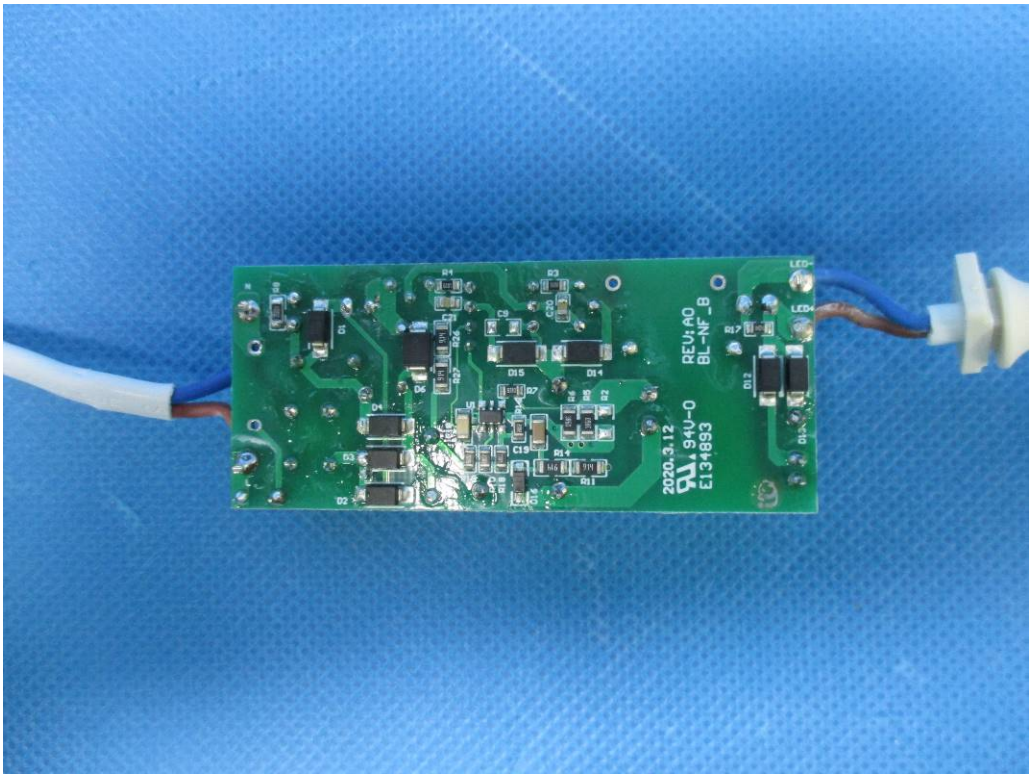


Internal view

Appendix 4 - Photographs

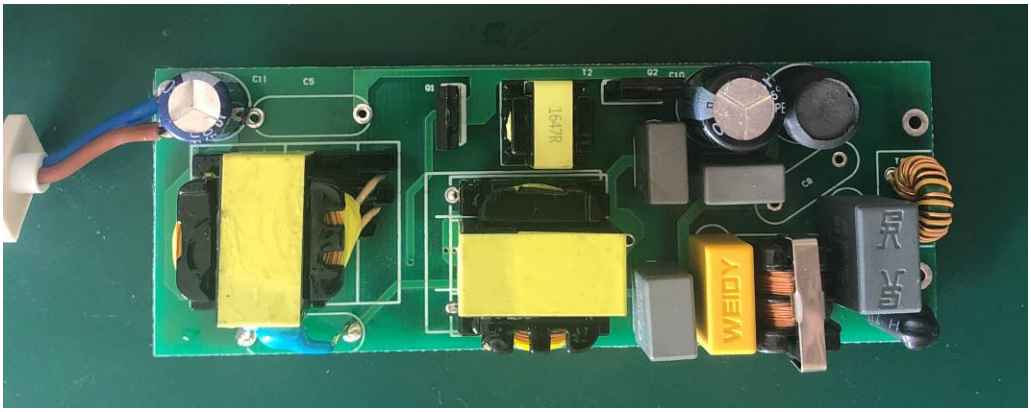


PCB1



PCB1

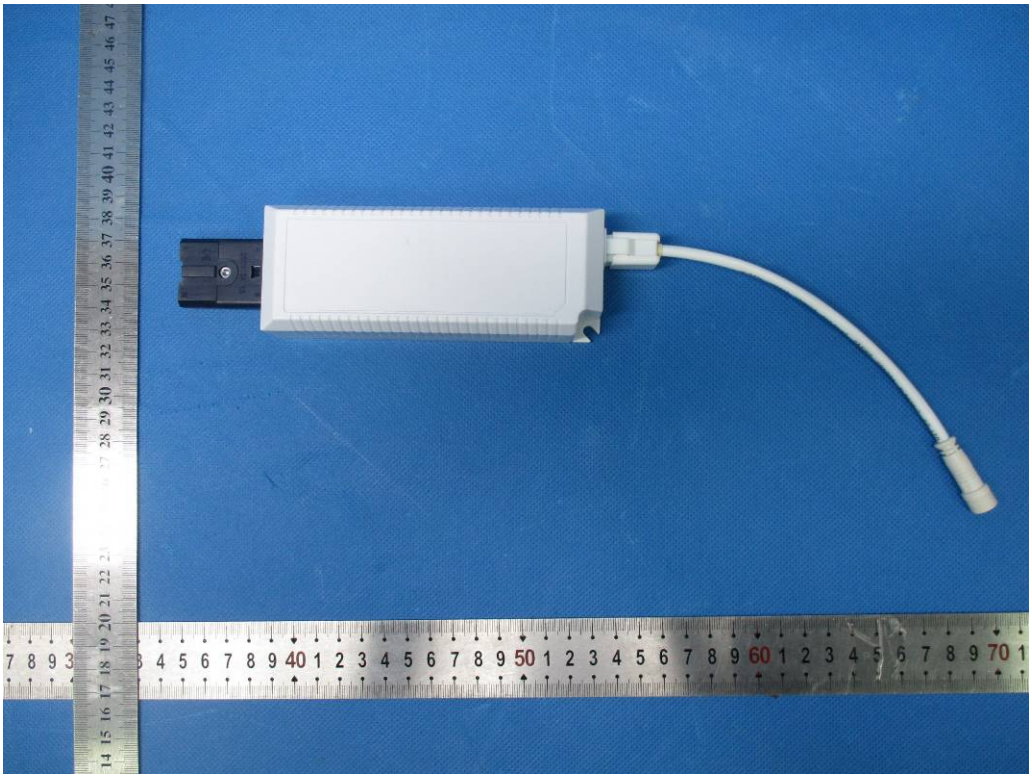
Appendix 4 - Photographs



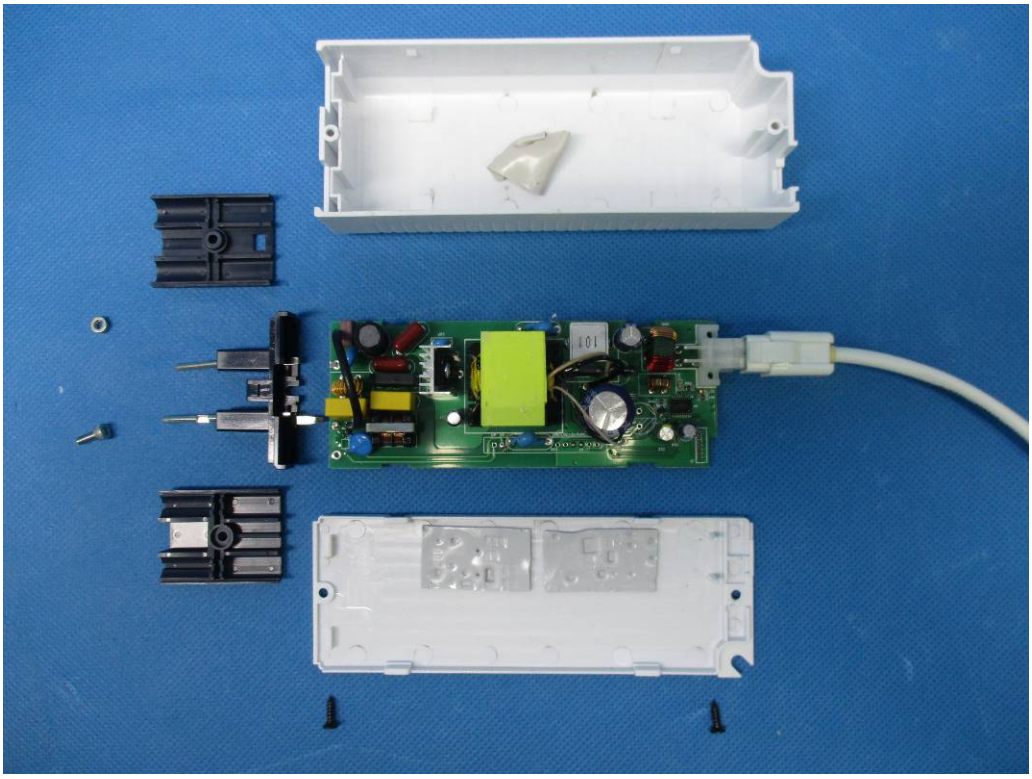
PCB2

PCB2

Appendix 4 - Photographs

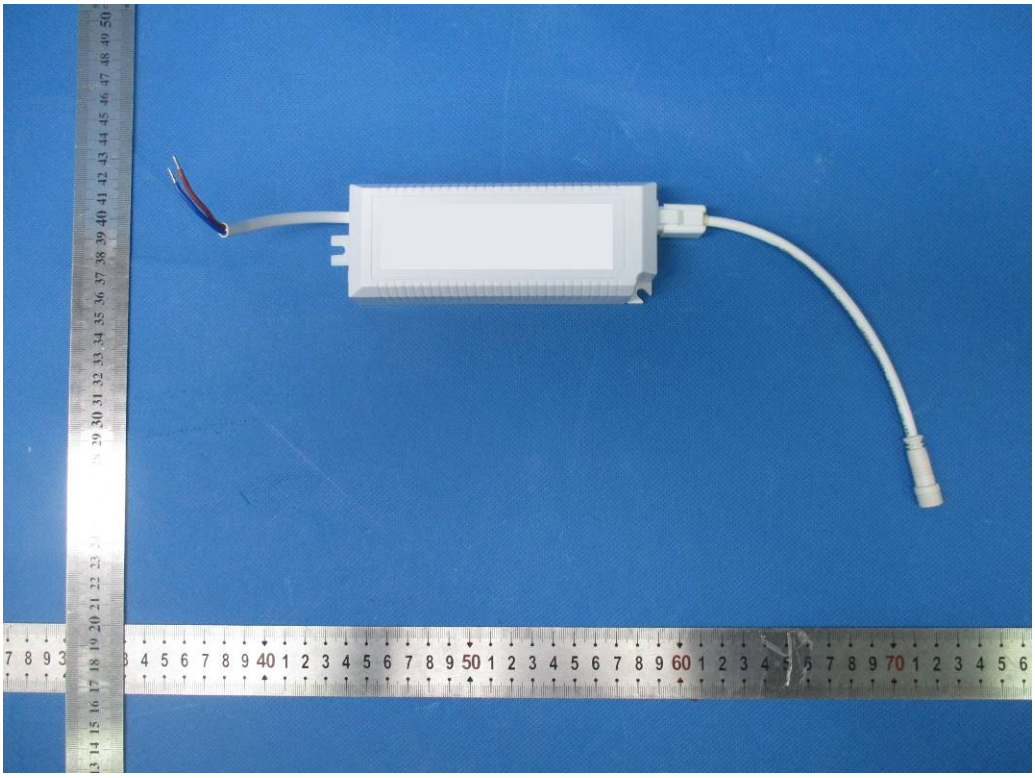


LU*200-1200S A

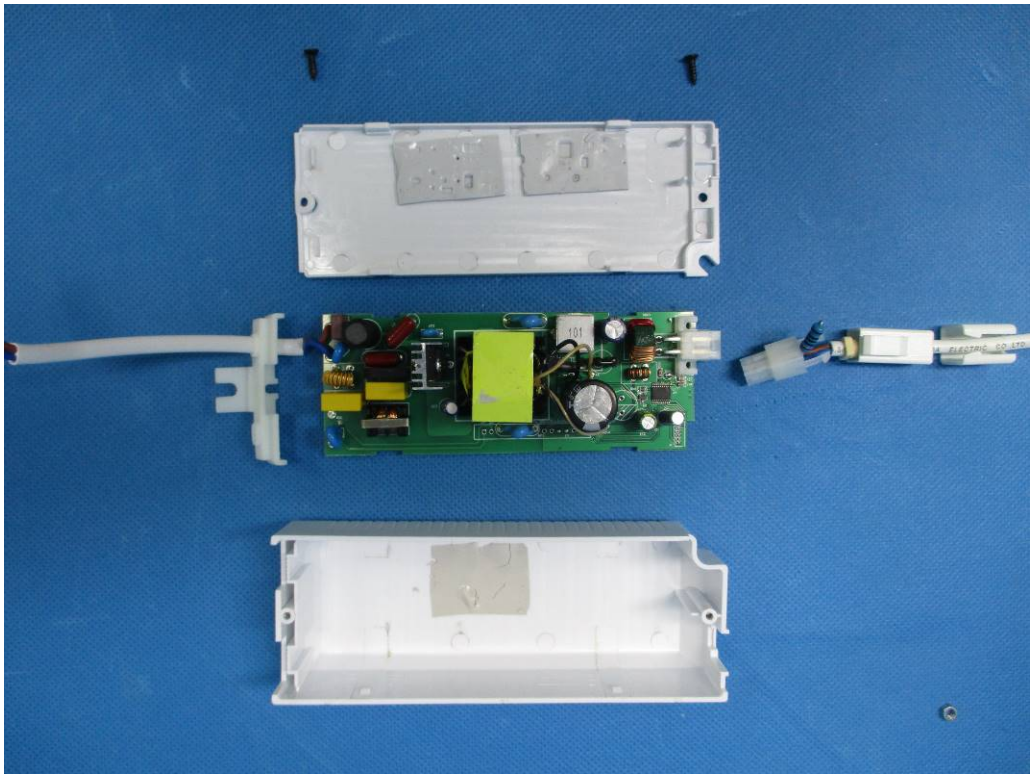


Internal view

Appendix 4 - Photographs

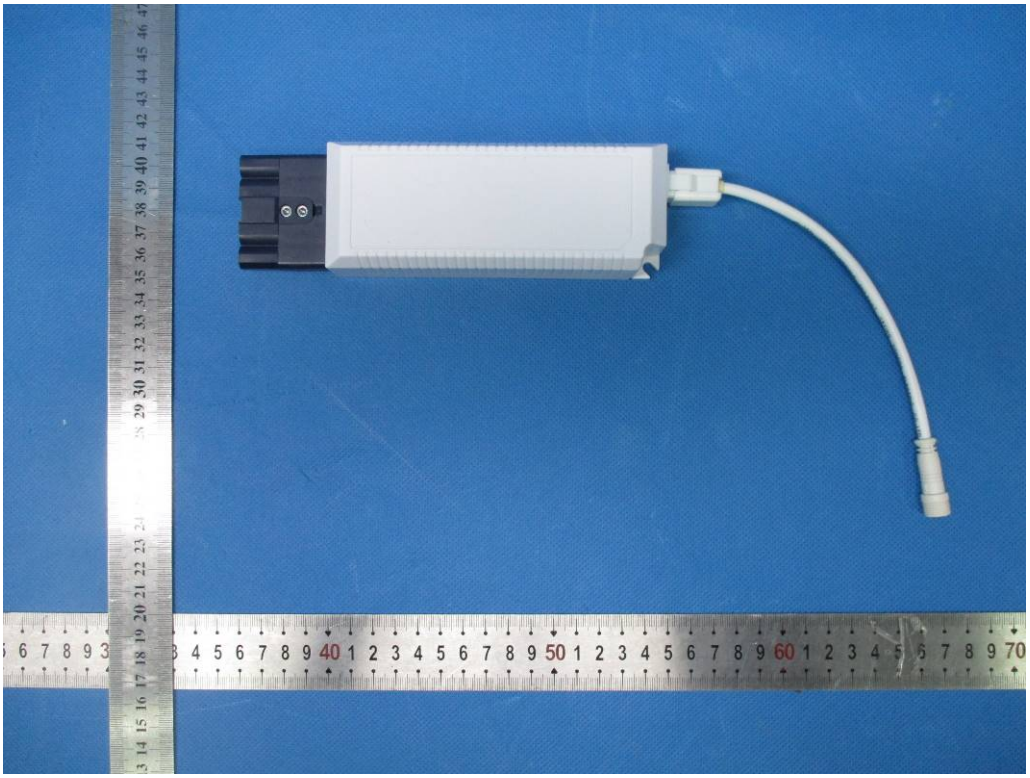


LU*200-1200S B

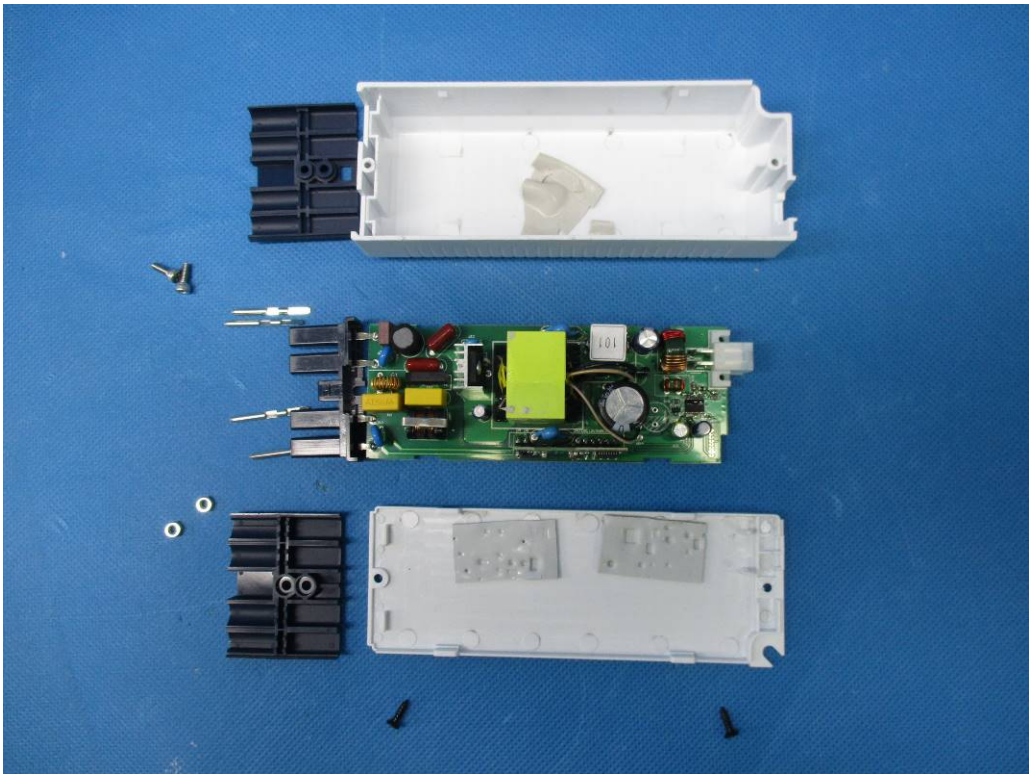


Internal view

Appendix 4 - Photographs

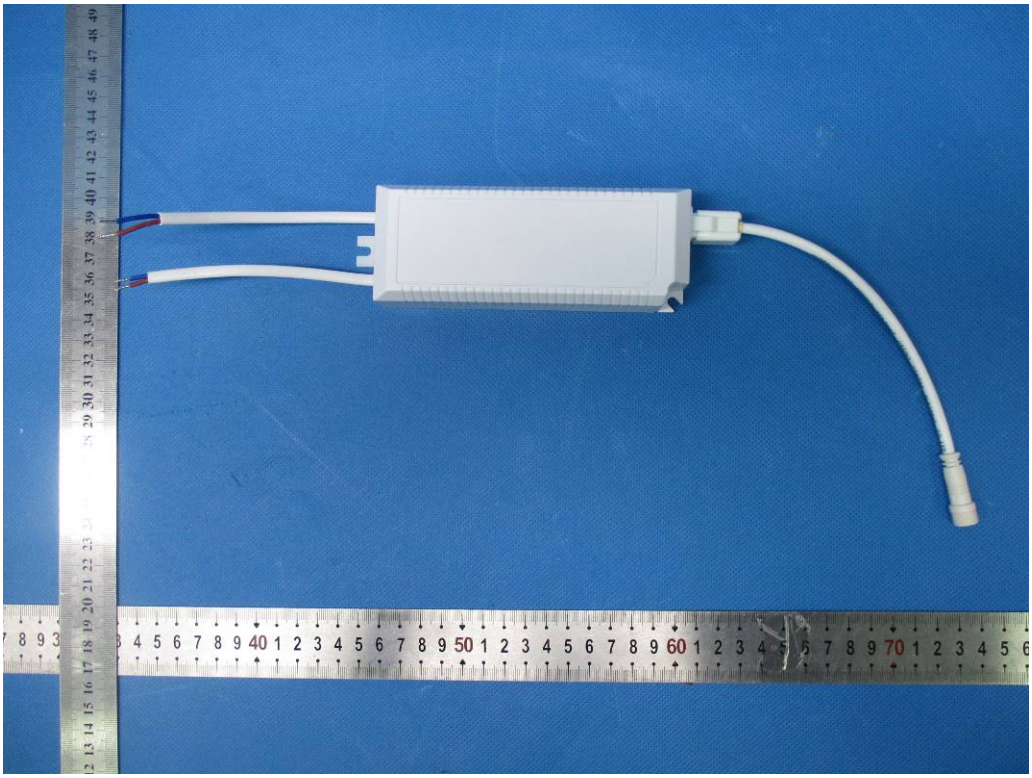


LU*200-1200D A

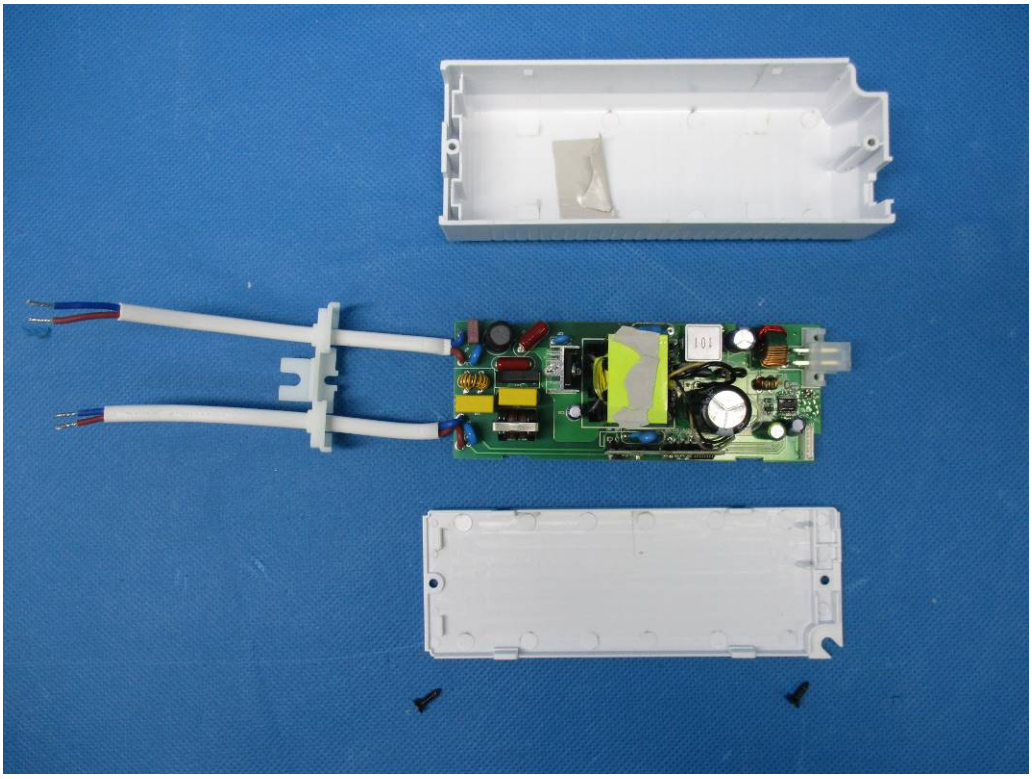


Internal view

Appendix 4 - Photographs

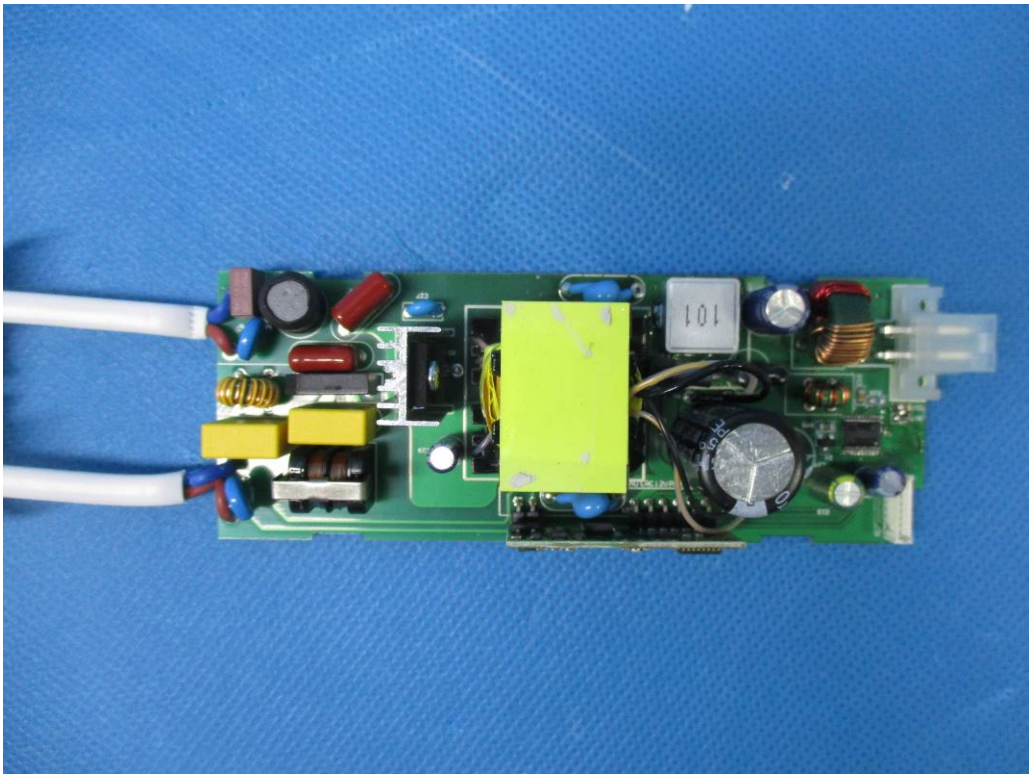


LU*200-1200D B

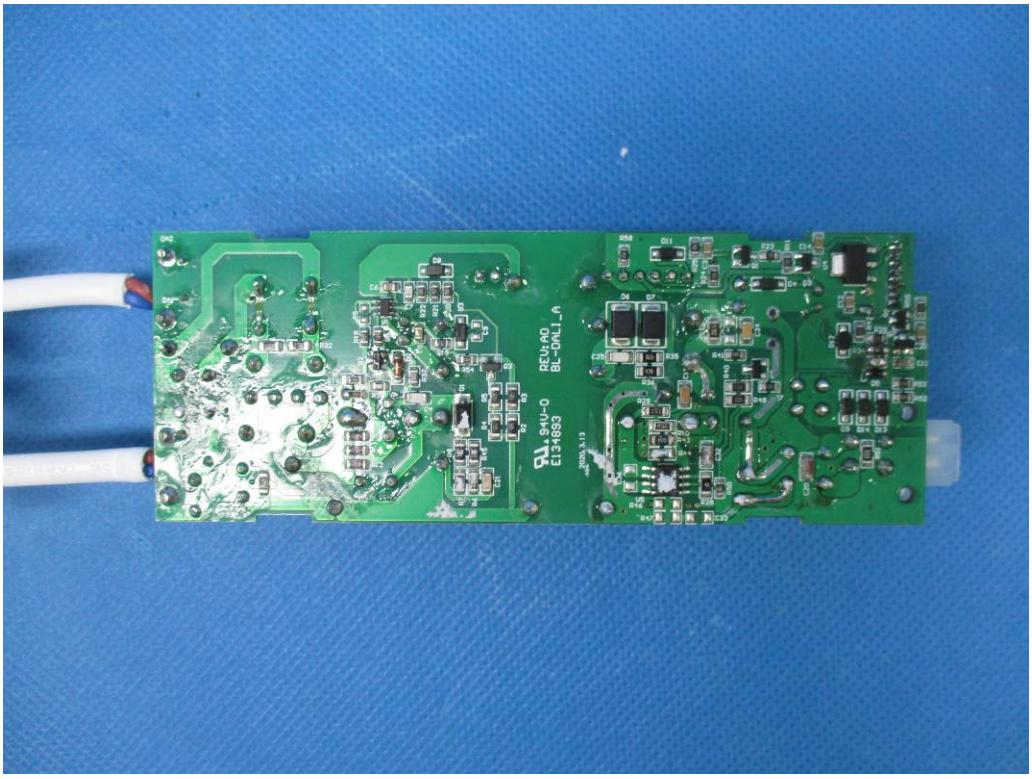


Internal view

Appendix 4 - Photographs

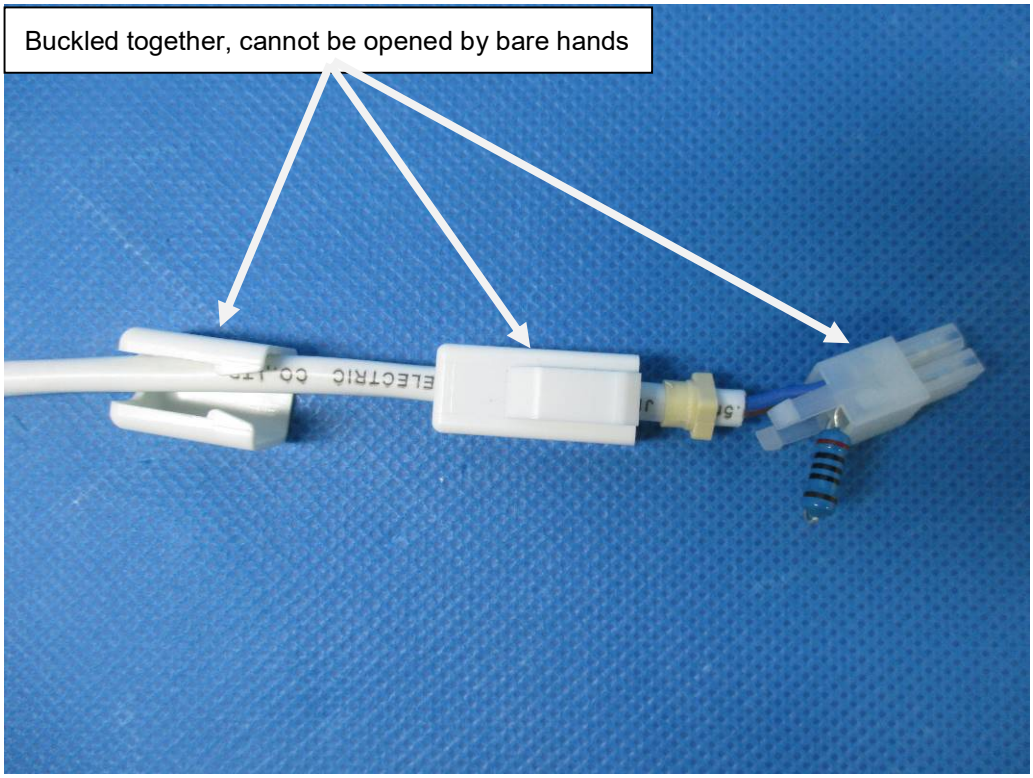


PCB3

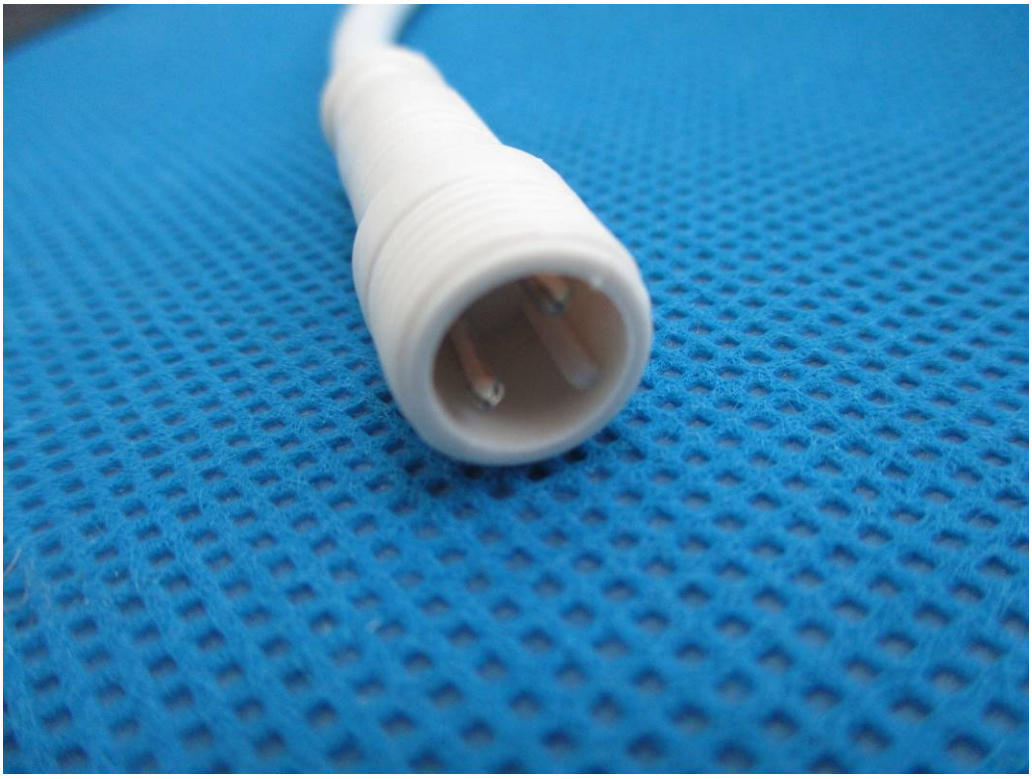


PCB3

Appendix 4 - Photographs

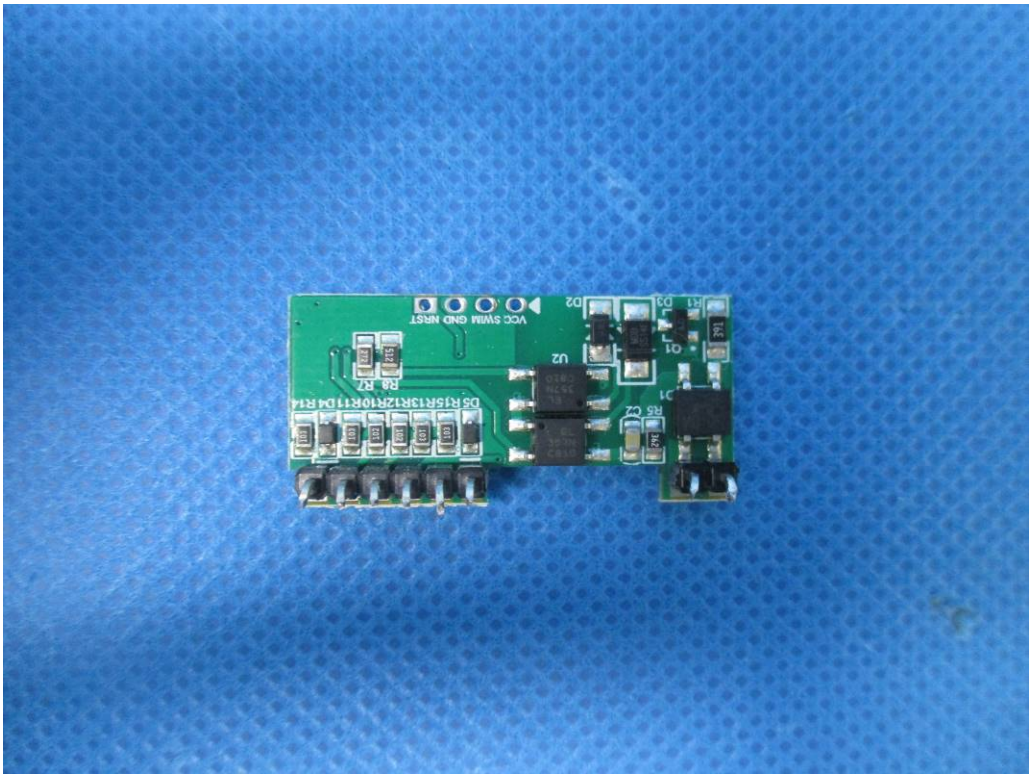


Output connector

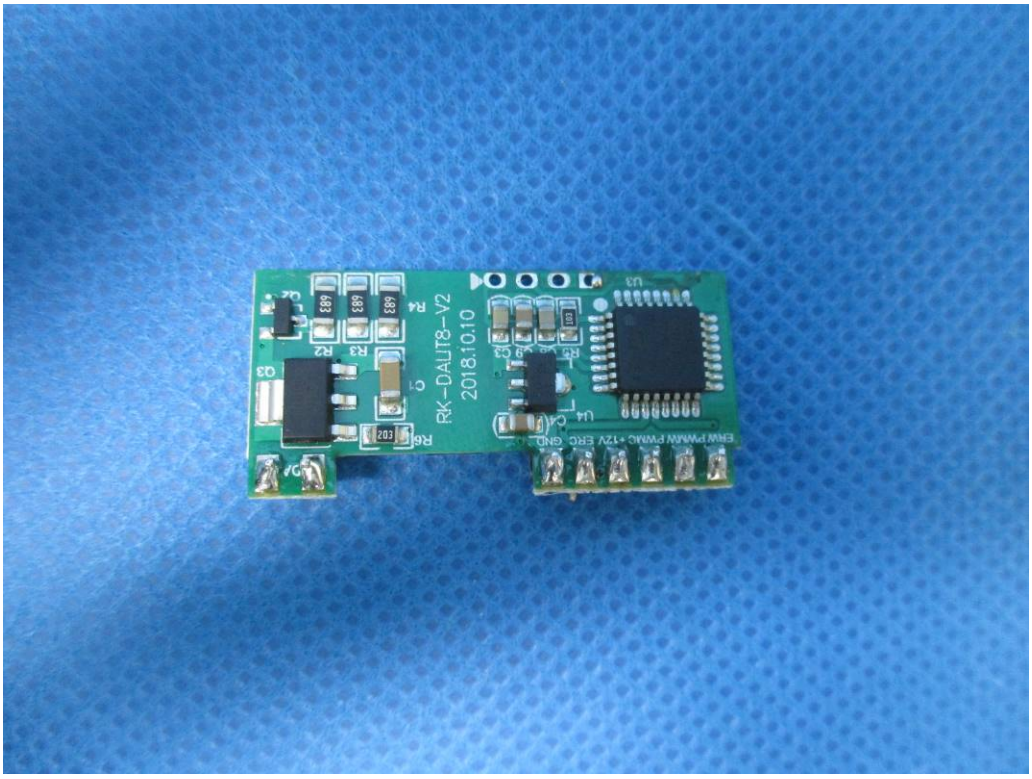


Output connector

Appendix 4 - Photographs



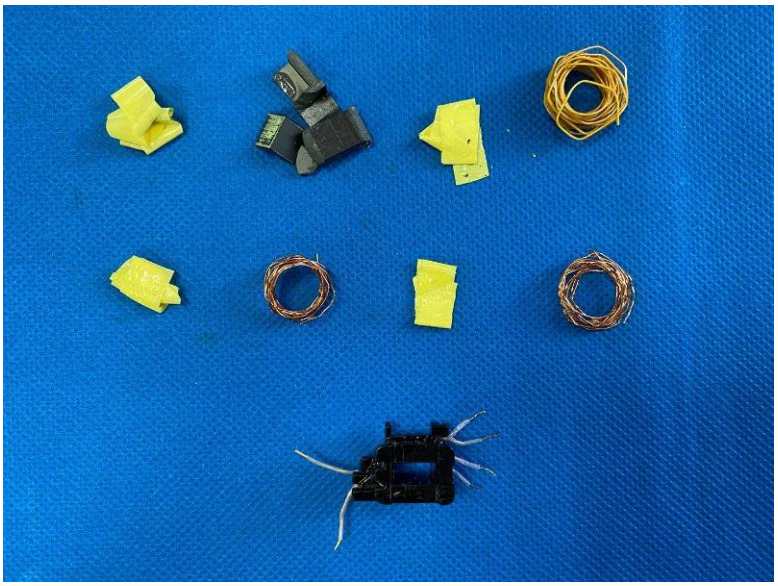
DALI PCB



DALI PCB

Appendix 4 - Photographs

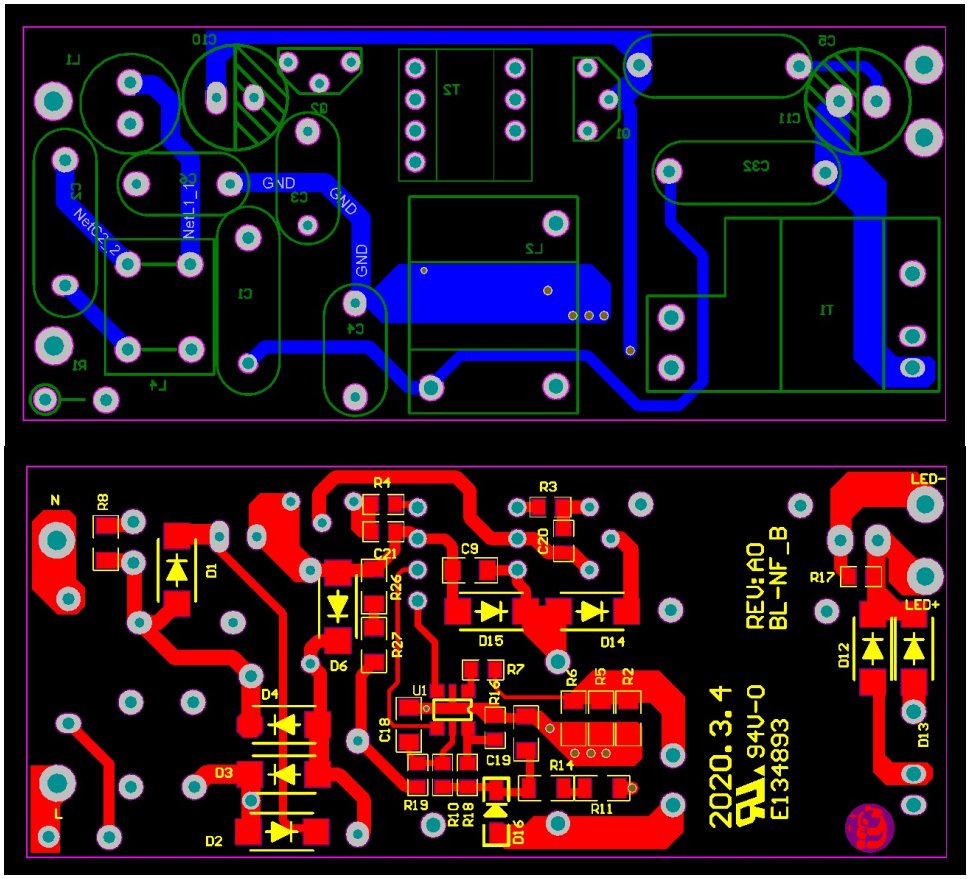
Transformer:



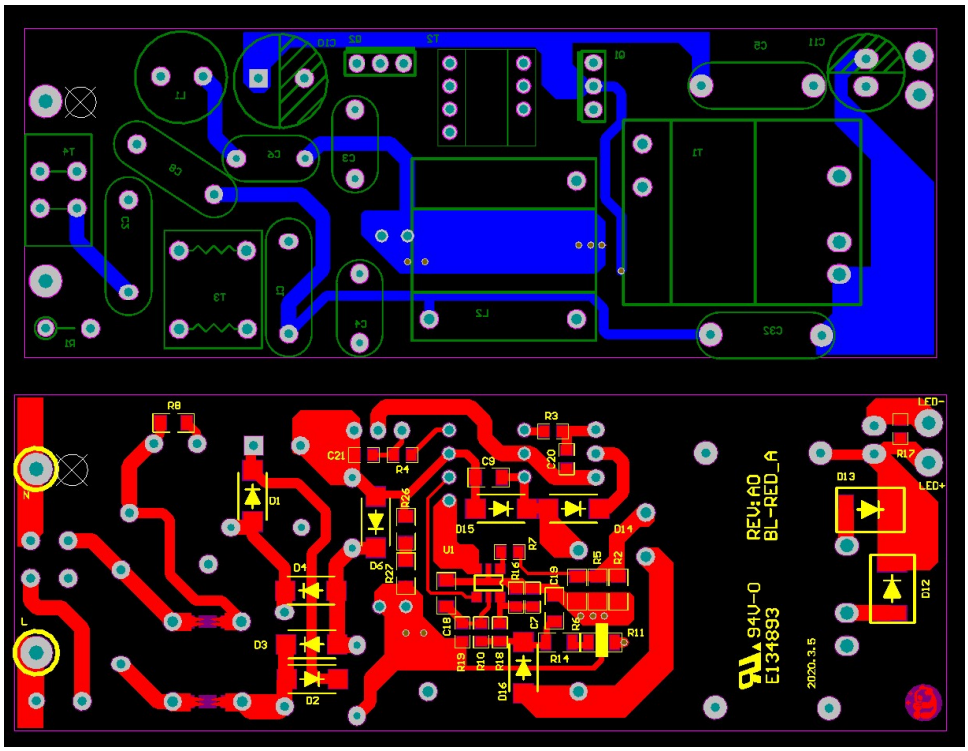
PCB1

PCB2

Appendix 4 - Photographs

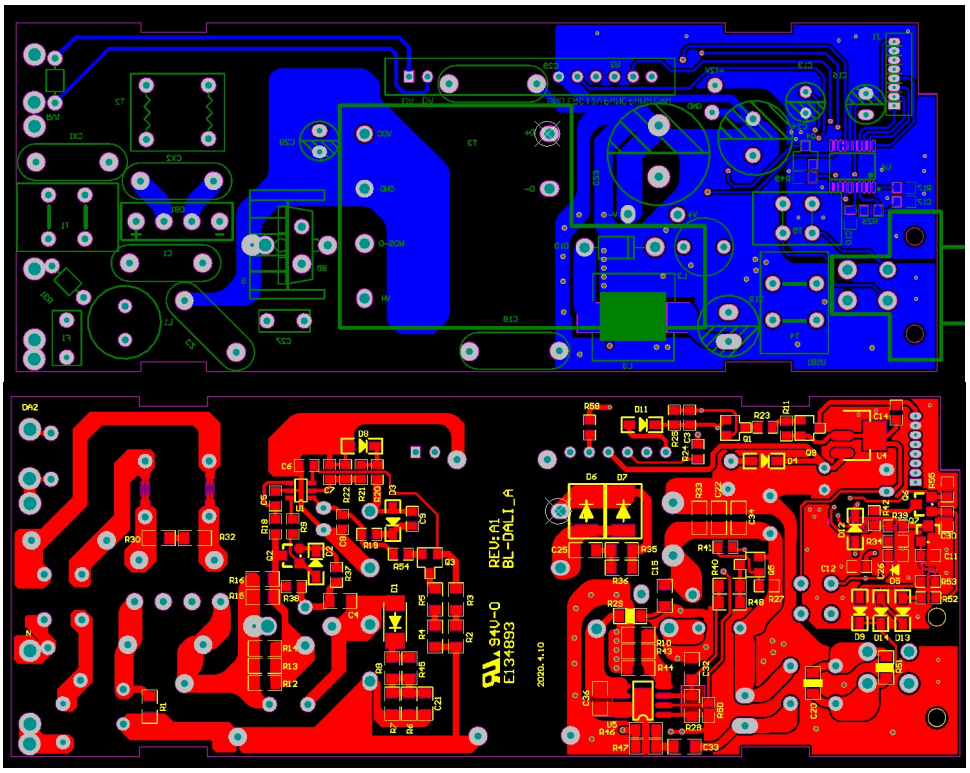


Layout 1

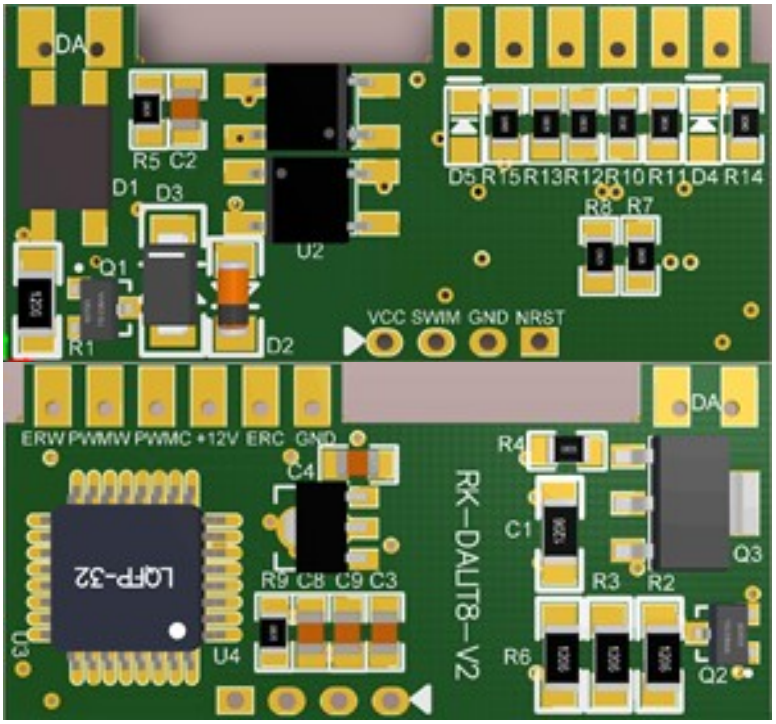


Layout 2

Appendix 4 - Photographs

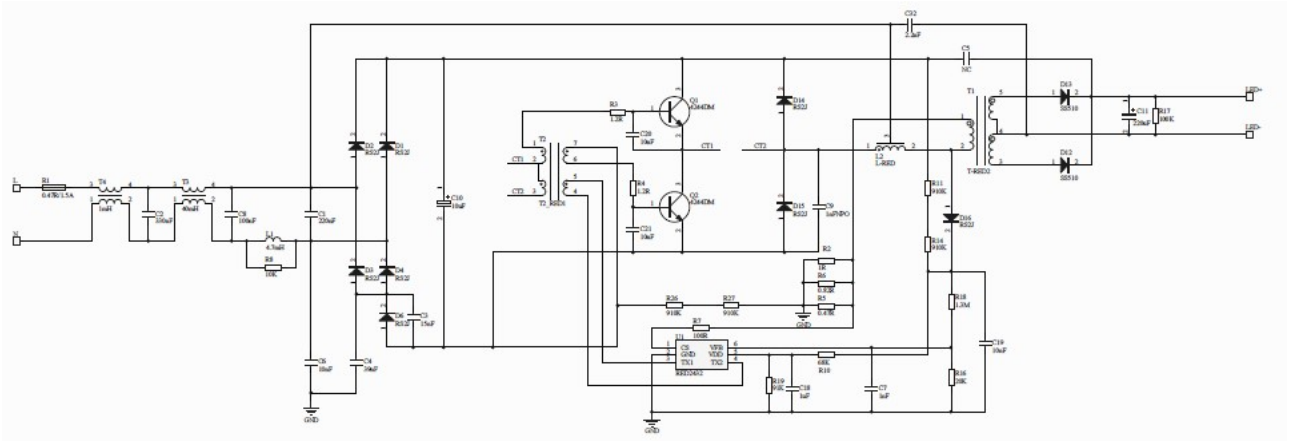


Layout 3

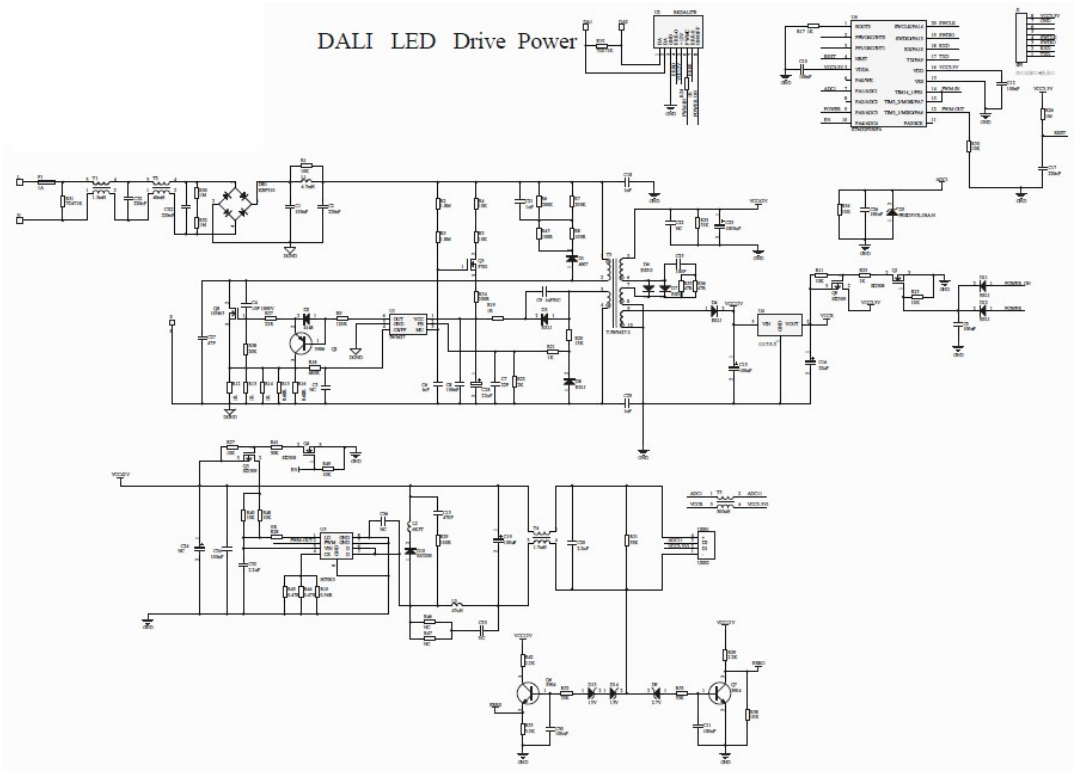


DALI layout

Appendix 4 - Photographs

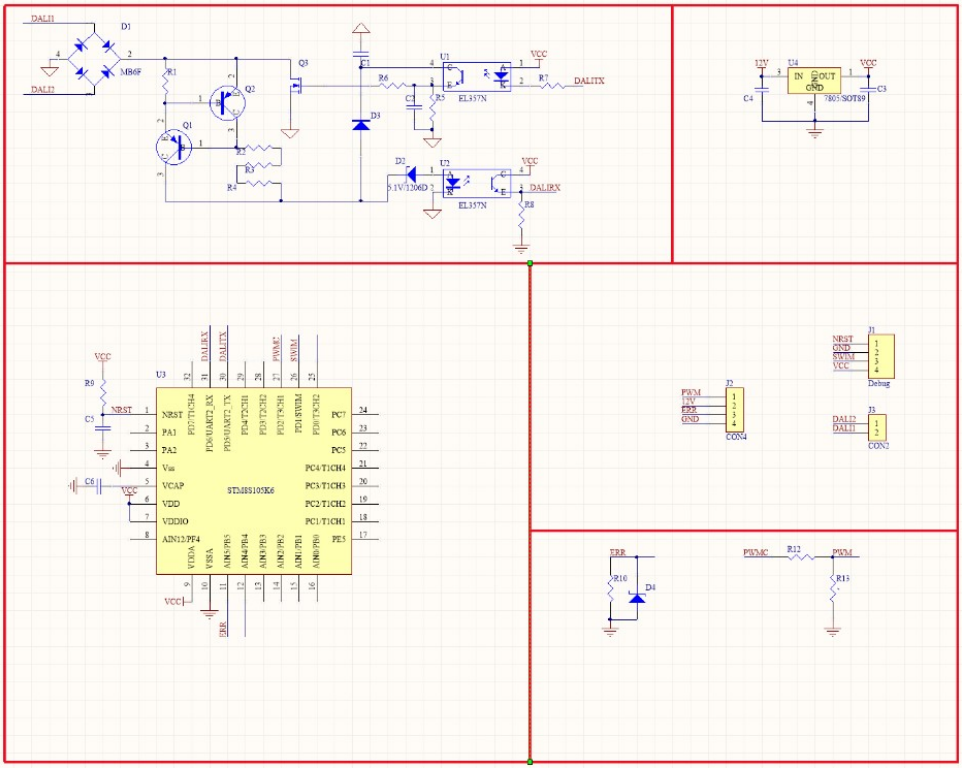


PCB1 circuit



PCB2 circuit

Appendix 4 - Photographs



DALI circuit