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Test Report issued under the responsibility of:

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. .....:	PTC-220100002
Date of issue .....:	2020-12-18
Total number of pages.....	37 pages (incl. attachments)
Name of Testing Laboratory preparing the Report.....:	PTC Ürün Test ve Belgelendirme Sanayi Ticaret Ltd. Şti. Aydinli Mah. Patlayici Maddeler Yolu Cad. Beyoğlu San. Sit., D1 Blok No:26, TR-34953 Tuzla – İstanbul / TURKEY
Applicant's name.....:	ELECTROSTART JSCo
Address .....:	Republica Blvd. 2 ; 3540 - VARSHETS; Bulgaria
Test specification:	
Standard .....:	IEC 61347-2-13:2014, AMD1:2016 used in conjunction with IEC 61347-1:2015, AMD1:2017
Test procedure .....:	CB Scheme
Non-standard test method .....:	N/A
Test Report Form No.....:	IEC61347_2_13G
Test Report Form(s) Originator.....:	Intertek Semko AB
Master TRF.....:	2017-12-01

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.
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Test item description .....:	LED POWER SUPPLY
Trade Mark .....:	Electrostart STARTS UP THE LIGHT
Manufacturer.....:	Same as applicant
Model/Type reference .....:	Led Converter 300 W 12 V
Ratings .....:	Input: 220-240 V~, 2.6 A , 50/60 Hz, Max.300 W, Class I, IP 67 , tc:85°C Output: DC 12V , 25A , Constant Voltage LED Power Supply

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):

☒	**CB Testing Laboratory:**	PTC Ürün Test ve Belgelendirme Sanayi Ticaret Ltd. Şti.	
Testing location/ address ..... :		Aydinli Mah. Patlayici Maddeler Yolu Cad. Beyoğlu San. Sit., D1 Blok No:26, TR-34953 Tuzla – İstanbul / TURKEY	
Tested by (name, function, signature) ..... :		M. Emin Coşkun Test Person	
Approved by (name, function, signature) .. :		Murat Çitil Lab. Tech. Manager	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address ..... :			
Tested by (name + signature) ..... :			
Witnessed by (name, function, signature). :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Witnessed by (name, function, signature). :			
Approved by (name, function, signature) .. :			
Supervised by (name, function, signature) :			

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

Attachment 1: Photo Documentation (5 pages)

Summary of testing: The products covered by this report have been tested and complies with the applicable requirements of this standard.

The test samples are complying with the relevant product standards and all applicable test

- IEC 61347-1:2015/AMD1:2017

- IEC 61347-2-13:2014

Tests performed (name of test and test clause):

☒ Clause 7(7): Marking

☒ Clause 8(10): Protection Against Accidental Contact With Live Parts

☐ Clause 9(8): Terminals

☒ Clause 10(9): Provision For Protective Earthing

☒ Clause 11(11): Moisture Resistance And Insulation

☒ Clause 12(12): Electric Strength

☒ Clause 14(14): Fault Conditions

☒ Clause 15(-):Transformer Heating

☒ Clause 16(15): Construction

☒ Clause 17(16): Creepage Distances And Clearances

☒ Clause 18(17): Screws, Current-Carrying Parts And Connections

☒ Clause 19(18): Resistance to heat, fire and tracking

☒ Clause 20(19): Resistance To Corrosion

☒ Clause 21(-):Maximum Working Voltage (U_{out}) In Any Load Condition

All the tests are applied to the Led Converter 300 W 12 V which is considered representative for the series and give the most unfavourable test results. Other models construction was checked on provided sample and met the requirements of the harmonized standards.

Testing location:

PTC Ürün Test ve Belgelendirme Sanayi Ticaret Ltd. Şti..

Aydinli Mah. Patlayici Maddeler Yolu Cad. Beyoğlu San. Sit., D1 Blok No:26, TR-34953 Tuzla – İstanbul / TURKEY

Summary of compliance with National Differences:

List of countries addressed:

N/A

☐ **The product fulfils the requirements of ……**

N/A

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.

(Typical)

Electrostart
STARTS UP THE LIGHT

Led Converter 300 W 12 V

Input: 220-240 V~, 2.6 A , 50/60 Hz, 300 W,
Class I, IP 67 , tc:85°C , PF > 0,5C

Output:DC 12V , 25A

SELV

ELECTROSTART JSCo

Republica Blvd. 2 ; 3540 - VARSHETS;
Bulgaria

Electrostart
STARTS UP THE LIGHT

Led Converter 200 W 12 V

Input: 220-240 V~, 1.75 A , 50/60 Hz, 200 W,
Class I, IP 67 , tc:80°C , PF > 0,5C

Output:DC 12V , 16.5A

SELV

ELECTROSTART JSCo

Republica Blvd. 2 ; 3540 - VARSHETS;
Bulgaria

Electrostart
STARTS UP THE LIGHT

Led Converter 150 W 12 V

Input: 220-240 V~, 1.35 A , 50/60 Hz, 150 W,
Class I, IP 67 , tc:80°C , PF > 0,5C

Output:DC 12V , 12.5A

SELV

ELECTROSTART JSCo

Republica Blvd. 2 ; 3540 - VARSHETS;
Bulgaria

Electrostart
STARTS UP THE LIGHT

Led Converter 100 W 12 V

Input: 220-240 V~, 0.94 A , 50/60 Hz, 100 W,
Class I, IP 67 , tc:80°C , PF > 0,5C

Output:DC 12V , 8A

SELV

ELECTROSTART JSCo

Republica Blvd. 2 ; 3540 - VARSHETS;
Bulgaria

Electrostart
STARTS UP THE LIGHT

Led Converter 60 W 12 V

Input: 220-240 V~, 0.3 A , 50/60 Hz, 60 W,
Class I, IP 67 , tc:80°C , PF > 0,95

Output:DC 12V , 5A

SELV

ELECTROSTART JSCo

Republica Blvd. 2 ; 3540 - VARSHETS;
Bulgaria

Test item particulars .....:	LED POWER SUPPLY
Classification of installation and use .....:	Class I / Independent
Supply Connection.....:	Supply Cord
.....:	
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 .....:	2020-09-28
Date (s) of performance of tests .....:	2020-09-30 to 2020-12-17

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 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) .....: Same as applicant

General product information:

The sample is designed to be used for LED modules. Output type is constant voltage.

Model Name	Rating	Power	Difference
Led Converter 300 W 12 V	220-240 V~,50/60 Hz, Class I, IP67, 300 W	300 W	They share the same construction except for the power.
Led Converter 200 W 12 V	220-240 V~,50/60 Hz, Class I, IP67, 200 W	200 W	
Led Converter 150 W 12 V	220-240 V~,50/60 Hz, Class I, IP67, 150 W	150 W	
Led Converter 100 W 12 V	220-240 V~,50/60 Hz, Class I, IP67, 100 W	100 W	
Led Converter 60 W 12 V	220-240 V~,50/60 Hz, Class I, IP67, 60 W	60 W	

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

4 (4)	**GENERAL REQUIREMENTS**		**P**
- (4)	Insulation materials for double or reinforced insulation according requirements in Annex N of IEC 61347-1	(see Annex N)	P
- (4)	Compliance of independent controlgear enclosure with IEC 60 598-1		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		N/A

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	Electrostart	P
	b) model number or type reference	Led Converter 300 W 12 V	P
	c) symbol for independent controlgear, if applicable		P
	d) correlation between interchangeable parts and controlgear marked		N/A
	e) rated supply voltage (V)	220-240 V~	P
	supply frequency (Hz)	50/60 Hz	P
	supply current (A)	2,6 A	P
	f) earthing symbol		P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	k) wiring diagram		N/A
	l) value of tc	85°C	P
	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) ..... :	300 W	P
	- rated output voltage U_{rated} (V) ..... :	12 V	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		N/A
7.1 (7.2)	Marking durable and legible		P
	Rubbing 15 s water, 15 s petroleum; marking legible		P
7.2 (7.1)	**Information to be provided, if applicable**		**P**
	h) declaration 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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V .....:	8 V	P
- (10.3)	**Controlgear providing SELV**		**P**
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV controlgear		P
	No connection between output circuit and the body or protective earthing 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		P
	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**		N/A
- (8.1)	**Integral terminals**		N/A
	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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Screwless terminals according section 15 of IEC 60598-1:		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the controlgear	(see Annex 3)	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		N/A
	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**		**P**
	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 ..... :		P
- (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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (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
	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 ..... :	≥999,9 MΩ	P
	For double or reinforced insulation ≥ 4 MΩ ..... :	≥999,9 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		P
	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	1280 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	5000 V	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)	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
	Short-circuit or interruption of SPDs	(see appended table)	N/A
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 ..... :	≥999,9 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 and in turn to a d.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

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		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		P
	Double LED modules or equivalent load connected in serial to the output terminals of constant current 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**

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (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		P
	- controlgear providing SELV in accordance with relevant part 2 of IEC 61347		N/A
	- another source		N/A
	Voltage in the circuit not higher than ELV		N/A
	SELV circuits insulated from LV by double or reinforced insulation		P
	SELV circuits insulated from non SELV circuits by double or reinforced insulation		P
	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		N/A
- (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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
	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		P
	Controlgears providing SELV comply with additional requirements in Annex L		P
	Insulating lining of metallic enclosures		P
	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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (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:		P
	- self-tapping screws		P
	- 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 ..... :	Fixing Screw: 0,5 Nm	P
	Torque test: torque (Nm); part ..... :	Earthing Screw: 0,5 Nm	P
	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

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Clause	Requirement + Test	Result - Remark	Verdict

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)	N/A
- (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**		**P**
	- test according 4.18.1 of IEC 60598-1		P
	- 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
Output	Short circuit	NO
Capacitor (C7)	Short circuit	NO
Capacitor (C9)	Short circuit	NO
Capacitor (C12)	Short circuit	NO
Capacitor (C17)	Short circuit	NO
Capacitor (C18)	Short circuit	NO
Capacitor (C181)	Short circuit	NO
Capacitor (C182)	Short circuit	NO
Capacitor (C7)	Short circuit	NO

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Clause	Requirement + Test	Result - Remark	Verdict

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	5	1,5	9	5	2,5	7	
Working voltage (V) ..... :					220-240~			—
Frequency if applicable (kHz) ..... :					-			—
PTI ..... :					< 600 ☒	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					-			—
Pulse voltage if applicable (kV) ..... :					-			—
Supplementary information: current-carrying parts of different polarity								
Distance 2:	B	5	1,5	9	5	2,5	7	
Working voltage (V) ..... :					220-240~			—
Frequency if applicable (kHz) ..... :					-			—
PTI ..... :					< 600 ☒	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					-			—
Pulse voltage if applicable (kV) ..... :					-			—
Supplementary information: current-carrying parts and accessible metal part								
Distance 3:	R	6,5	3	9	6,5	5	7	
Working voltage (V) ..... :					220-240~			—
Frequency if applicable (kHz) ..... :					-			—
PTI ..... :					< 600 ☒	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					-			—
Pulse voltage if applicable (kV) ..... :					-			—
Supplementary information: current-carrying parts of different polarity								

** 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)	
Insulation Material	See Annex 1	125	1,2	

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Clause	Requirement + Test	Result - Remark	Verdict

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	See Annex 1	30 s	No	8	P
Supplementary information:					

19 (18.3)	TABLE: Glow-wire test			N/A
Glow wire temperature..... :	650°C			—
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
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
Insulation Material	See Annex 1	10	No	3	P
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

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 ..... :		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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
	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**		N/A
	Draught-proof enclosure in accordance with the description		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Dimensions of the enclosure		N/A
	Other design; description		N/A
(H)	**ANNEX H - TESTS**		P
	All tests performed in accordance with the advice given in Annex H, if applicable		P
I (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 .....:	105 °C	—
	Winding insulation classified as Class .....:	Class F	—
	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

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Clause	Requirement + Test	Result - Remark	Verdict
	Between input- and output circuits not less than 5 MΩ ..... :	>999,9 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
	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 ..... :	3510 V	P
	2) Over basic or supplementary insulation between:		P
	a) live parts having different polarity ..... :	2025 V	P
	b) live parts and body if intended to be connected to protective earth ..... :	2025 V	P
	c) accessible metal parts and a metal rod of the same diameter as the flexible cable or cord ..... :	1500 V	P
	d) live parts and an intermediate metal part ..... :	1500 V	P
	e) intermediate metal parts and the body ..... :	1500 V	P
	f) each input circuit and all other input circuits ... :	1500 V	P
	3) Over reinforced insulation between the body and live parts ..... :		N/A
(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		N/A
(L.10)	**Components**		N/A
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1		N/A
(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		—

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Clause	Requirement + Test	Result - Remark	Verdict
	2) Supplementary distance through insulation		N/A
	Required distance (mm) ..... :		—
	Measured (mm) ..... :		N/A
	Supplementary information		—
	3) Reinforced distance through insulation		N/A
	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
(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**		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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
(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

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Clause	Requirement + Test	Result - Remark	Verdict
	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		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
(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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
	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					P
Object / part No.	**Code**	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
Transformer	B	EILUX	ETD49	300W - 12V Class F, 140 °C	IEC 61347-2-13:2014, AMD1:2016 IEC 61347-1:2015, AMD1:2017	Test with appliance
PCB	B	WODE	FR4	70um 2 Layers	IEC 61347-2-13:2014, AMD1:2016 IEC 61347-1:2015, AMD1:2017	Test with appliance
Description:	"License available upon request."					
Capacitor / W42Q3684KP 8L00A0W0	B	Weidy	MKP	310VAC-684K-P15 0.680uF/305…315VX2	IEC 60384-14 EN 60384-14	VDE / 40041066
Y1 Capacitor / WYD2H222MF 4S63E001	B	Weidy	WYD	WD Y1 222M 500VAC Y5V F10L3.5 2.2nF/500VAC	IEC 60384-14 EN 60384-14	VDE / 40051104
Varistor WZV10D471K GS53E000	B	Weidy	Varistor	10D471K WDL3.5 300VAC/0.4W	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE / 40052040
Fuse	B	Shurter	MST250	3.15A/250VAC	IEC 60127-1 IEC 60127-3	VDE/ 40013529
Optocoupler	B	Everlight	EL817C – DIL-4	200mW/35V/5kV/ CTR 200-400/DIP4	IEC 60747-5-5 EN 60747-5-5	VDE/ 132249

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 ..... :		—
	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)..... :	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)**		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

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

(15.6.1)	Conductors		N/A
	Terminal size and rating		N/A
15.6.2	Mechanical tests		N/A
(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)										
	Voltage drop of two inseparable joints									
	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)										
	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:										

Attachment 1: Photo Documentation

Photo 1.
Overall view

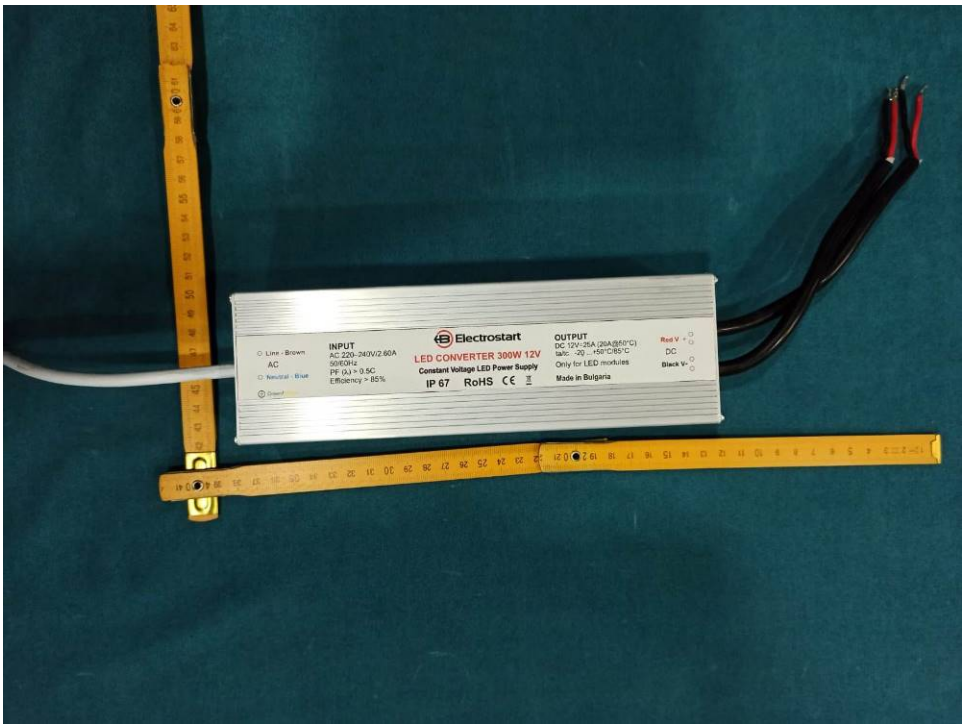
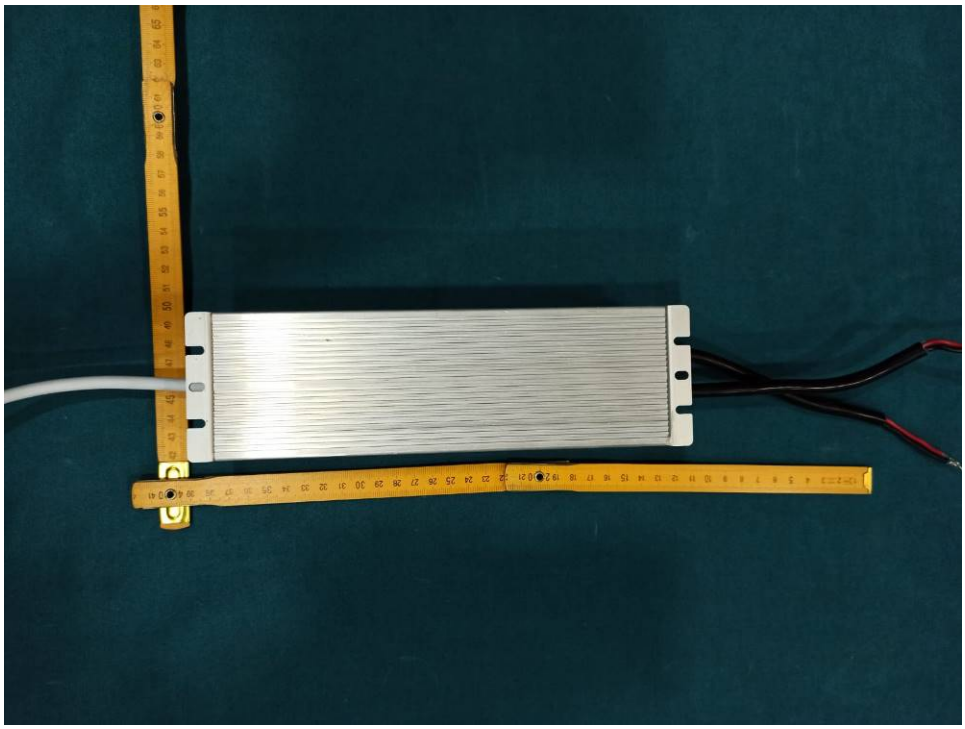


Photo 2.
Overall view



Attachment 1: Photo Documentation

Photo 3.
Input Cables

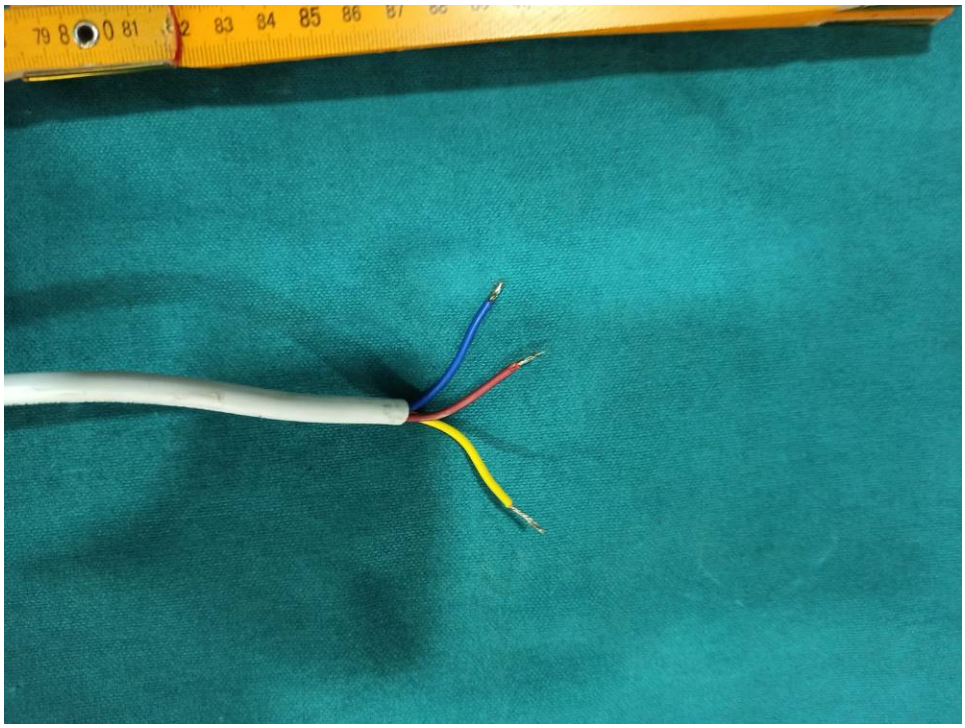
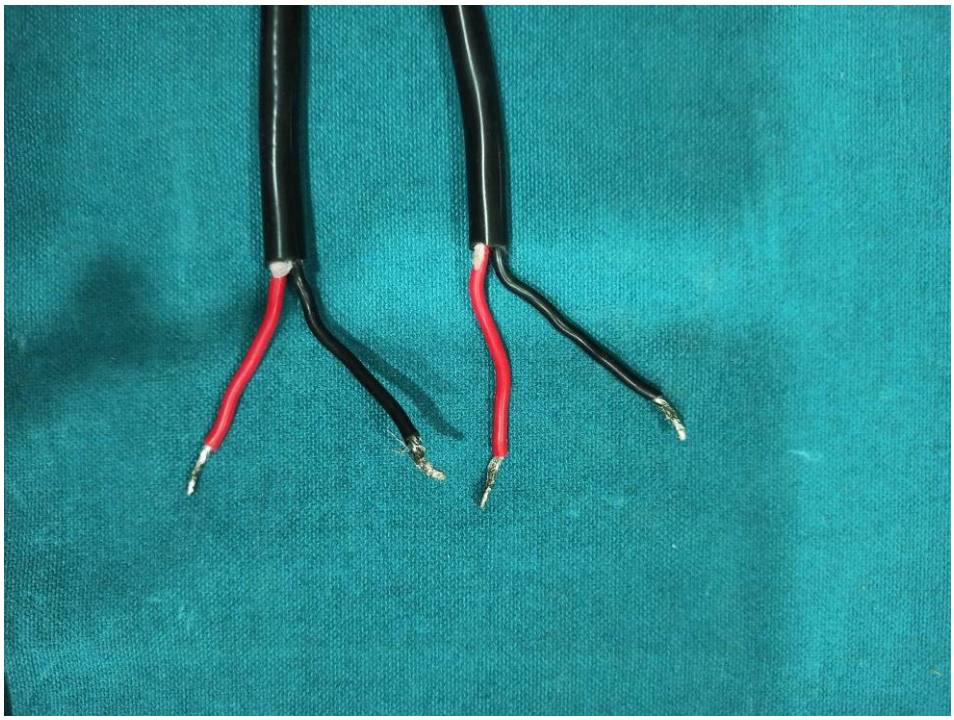


Photo 4.
Output Cables



Attachment 1: Photo Documentation

Photo 5.
Cable Entry

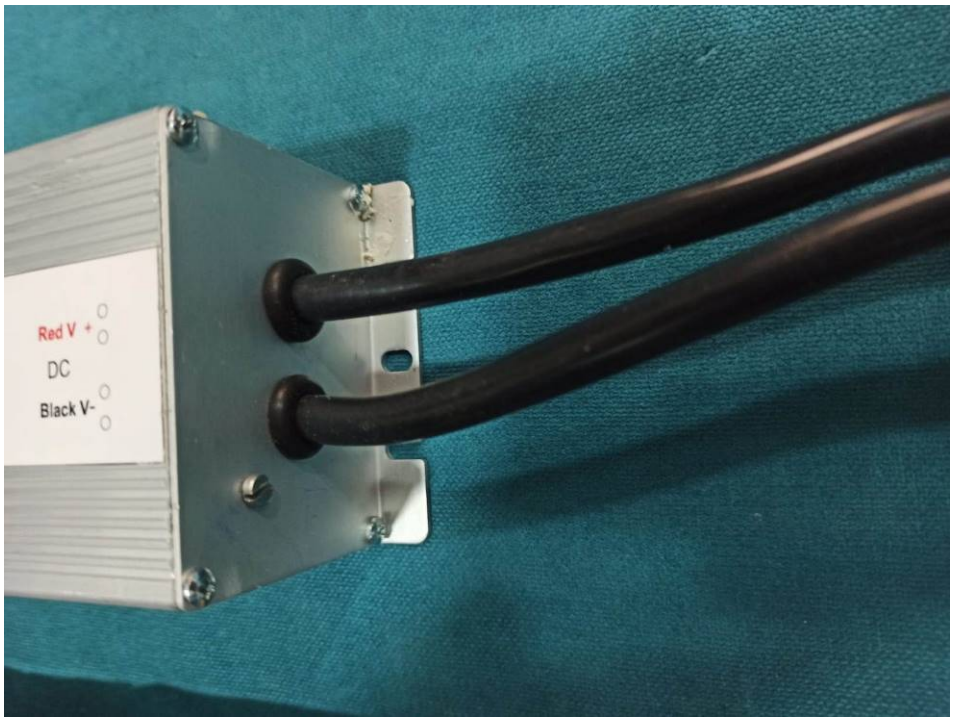


Photo 6.
Insulation Material

Attachment 1: Photo Documentation

Photo 7.
PCB

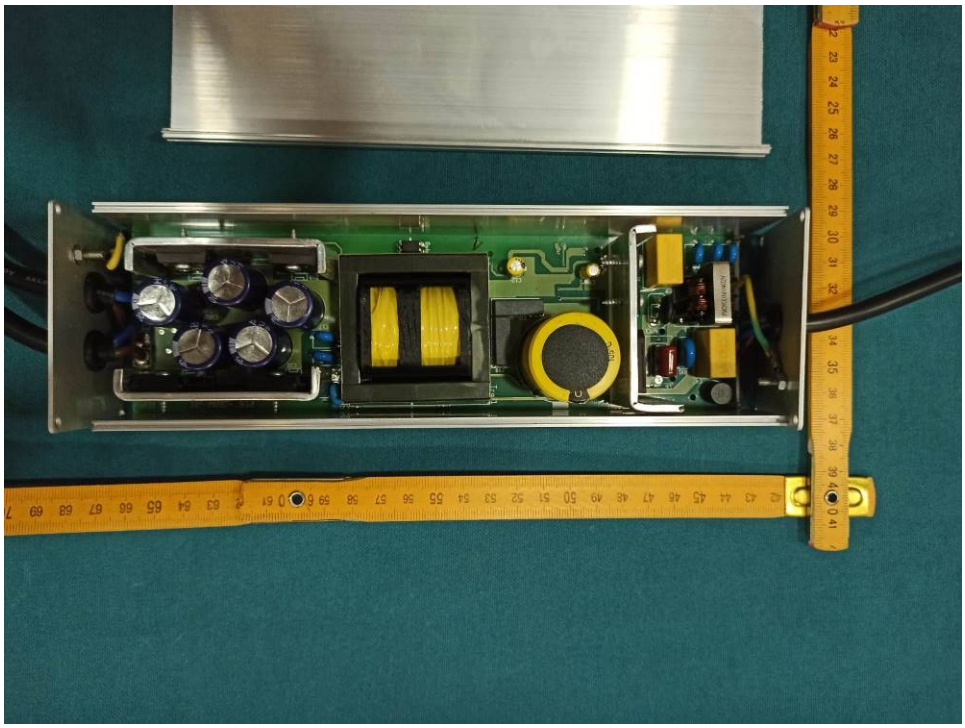
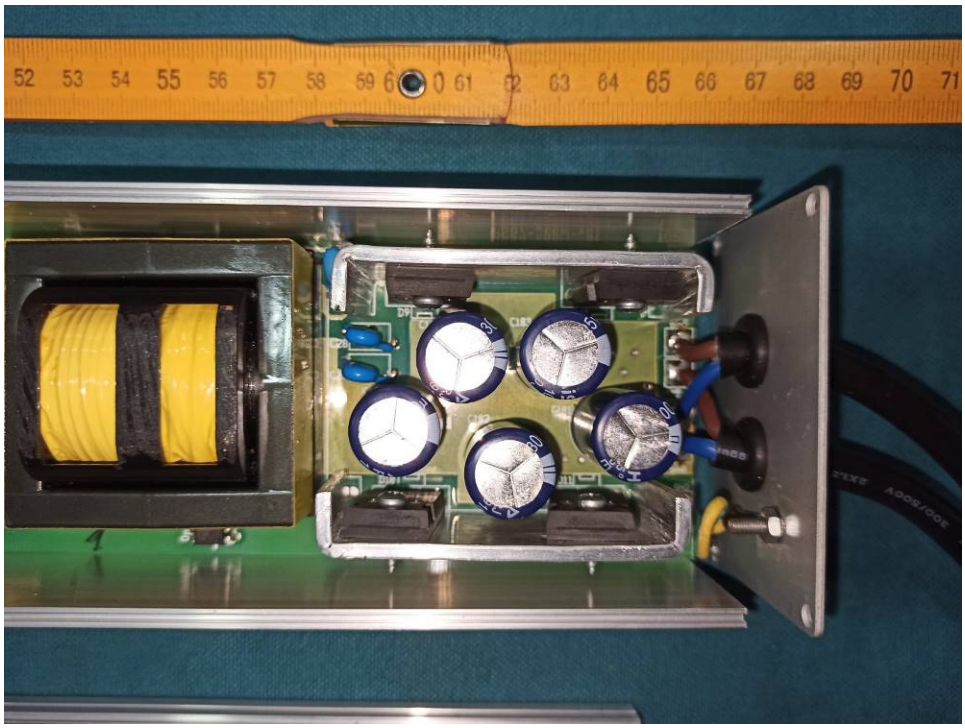


Photo 8.
Transformer and capacitors



Attachment 1: Photo Documentation

Photo 9.
Earth Connection

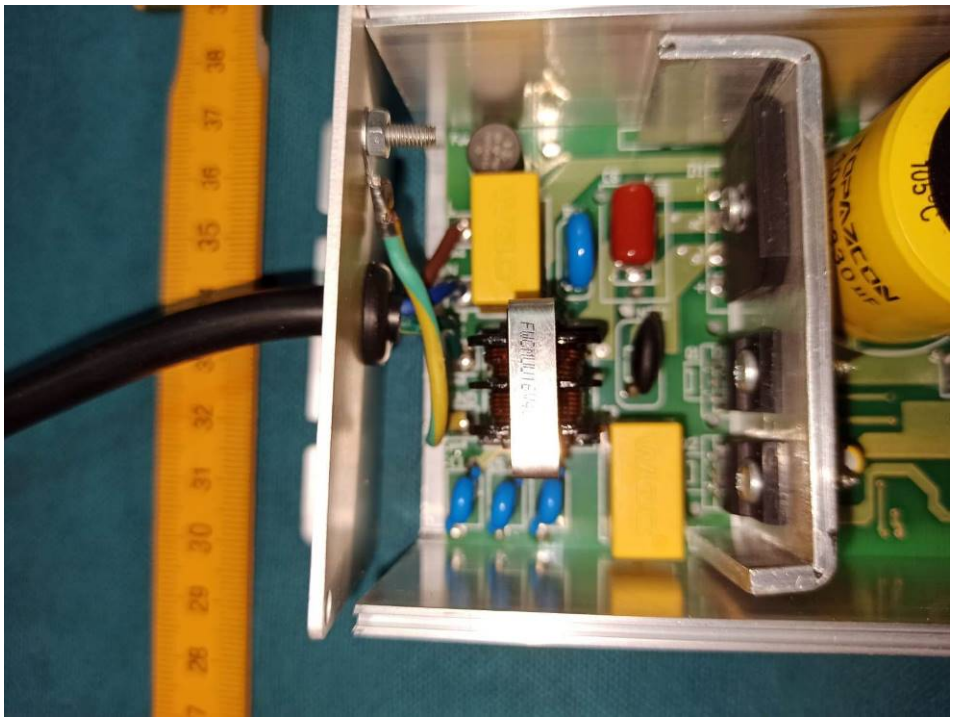


Photo 10.
Fuse and cable connection