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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. .....:	180501004SHA-001
Date of issue .....:	2018-10-24
Total number of pages	107 pages
Name of Testing Laboratory preparing the Report.....:	Intertek Testing Services Shanghai.
Applicant's name.....:	GlobTek, Inc.
Address .....:	186 Veterans Dr. Northvale, NJ 07647 USA
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 .....:	-
Test Report Form No. .....:	IEC61347_2_13G
Test Report Form(s) Originator..:	Intertek Semko AB
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Test item description ..... :	LED driver
Trade Mark ..... :	GlobTek, Inc.
Manufacturer..... :	Same as applicant
Model/Type reference ..... :	GT*961200P****, GT*96900P**** (Refer to page 7 and page 8 for details.)
Ratings ..... :	independent lamp controlgear; Input: 100-240V~, 50-60Hz, 1.5A; Output: 12-54Vdc, Max. 9.2A, Max 120W; Refer to page 7 and page 8 for details.

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ CB Testing Laboratory:	Intertek Testing Services Shanghai.	
Testing location/ address ..... :	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China	
☐ Associated CB Testing Laboratory:	N/A	
Tested by (name, function, signature)..... :	Hans Wang (Engineer)	Hans Wang
Approved by (name, function, signature) .. :	Will Wang (Mandated Reviewer)	Will Wang
☐ 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):

Appendix 1: CENELEC group difference (page 65, total 1 page)

Appendix 2: Photos (page 66 to page 78, total 13 pages)

Appendix 3: Additional requirements of IEC/EN60598-1 (Page 79 to 107, total 29 pages)

Summary of testing:

The test results presented in this report relate only to the item tested. The results indicate that the specimen complies with standard "EN 61347-2-13:2014/AMD1:2017 used in conjunction with EN 61347-1:2015"

Tests performed (name of test and test clause):

Marking durability test	7.2
Provision for protective earthing	10 (Refer to clause 9.3 of IEC/EN61347-1)
Protection against access to live parts - Manual test and test finger test	8 (Refer to clause 10.1 of IEC/EN61347-1)
Full load and no load voltage test	8 (Refer to clause 10.4 of IEC/EN61347-1)
Touch current test	8 (Refer to clause 10.4 and Annex A.3 of IEC/EN61347-1)
Humidity and insulation resistance test	11 and Annex L.8.2 of IEC/EN61347-1
Electric strength test	12 and Annex L.8.3 of IEC/EN61347-1
Fault condition test	14
Heating test	15.2 and Annex L.6 of IEC/EN61347-1
Abnormal operation test	15.3 and Annex L.7 of IEC/EN61347-1
Creepage distance and clearance	17 and Annex L.11 of IEC/EN61347-1
Resistant to heat, fire and tracking test	19

Testing location:

Intertek Testing Services Shanghai

Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China

Summary of compliance with National Differences:

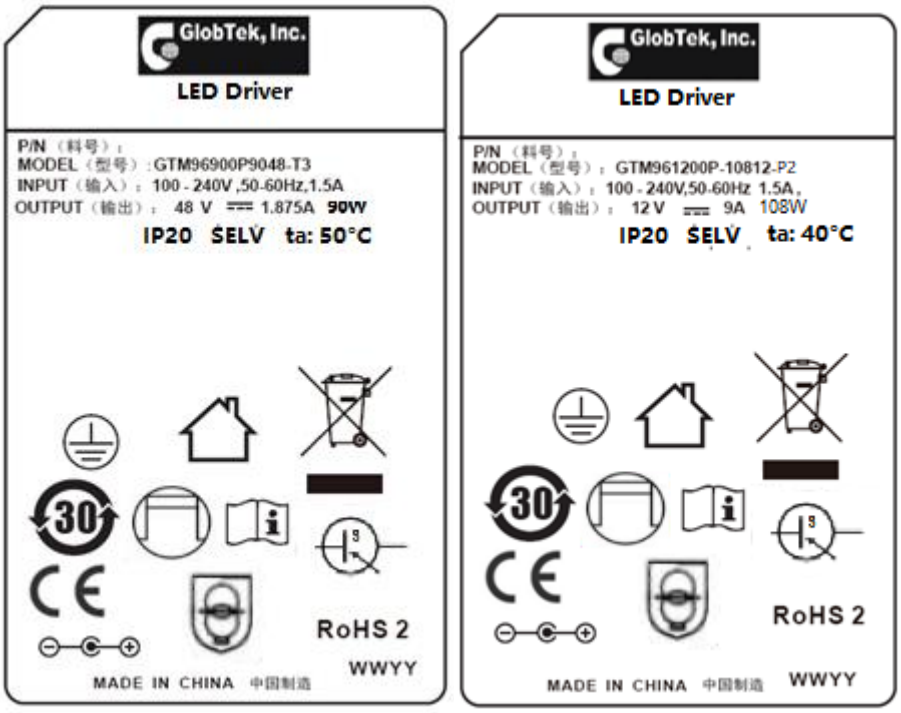
List of countries addressed:

Group differences for CENELEC countries are considered.

☒ **The product fulfils the requirements of EN 61347-2-13:2014/AMD1:2017 used in conjunction with EN 61347-1:2015**

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.



Note: 1. Other models have similar markings as above except different model number and ratings.

Note: 2. When the equipment is vended to EU, then name and address of the importer or authorized representative within the european economic area shall be added on the equipment.

Note: 3. The height of graphical symbols shall not be less than 5 mm, except for symbols for class II and class III, and may be reduced to a minimum of 3 mm where the space available for marking is restricted. The height of letters and numerals either shown separately or with or as part of symbols shall not be less than 2 mm.

Note: 4. The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.

Test item particulars.....:	LED driver
Classification of installation and use.....:	Class I for GT*961200P**T3*, GT*96900P**T3*, GT*961200P**T3TAB*, GT*96900P**T3TAB*, GT*961200P**T3A*, GT*96900P**T3A*, GT*961200P**TW3*, GT*96900P**TW3*, GT*961200P**TP3*, GT*96900P**TP3*, GT*961200P**P3* and GT*96900P**P3*; Class II for other models.
Supply Connection.....:	Non-detachable power supply cord for GT*961200P**TW*, GT*96900P**TW*, GT*961200P**TP*, GT*96900P**TP*, GT*961200P**P2*, GT*96900P**P2*, GT*961200P**P3* and GT*96900P**P3*; Appliance inlet for for other models.
.....:	
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 .....:	2018-05-15
Date (s) of performance of tests .....:	2018-05-15 to 2018-08-31

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.

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

All the tests are applied to and the test samples complies with the applicable requirements of this standard.

GTM961200P12054-T2, GTM961200P11012-T2, GTM96900P9054-T2 and GTM96900P9012-T3 are tested as typical models.

Provision for protective earthing test are performed on GTM96900P9012-T3.

IP 68 test are performed only on GTM96900P9054-P3.

During the system level safety review of the END-USE PRODUCT, the DC connector should be reviewed for an acceptable level of safety.

LED driver is compliance with EN 62493 without test.	
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) .....:	1. GlobTek (Suzhou) Co., Ltd Building 4, No. 76 JinLing East Road, Suzhou Industrial Park, Suzhou, JiangSu, 215021, China 2. GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 USA

General product information:

Product covered by this report is independent LED driver. The IP 68 models are encapsulated. For other models, the top and bottom parts of the enclosure are ultrasonic welded and screws.

The product provides internally two fuse locations, the first fuse F1 or FS1 is required, the second fuse F2 or FS2 is optional.

The power supplies are rated class I or class II or class II units may have an optional functional earth connection.

During the system level safety review of the END-USE PRODUCT, the DC output connector should be reviewed for an acceptable level of safety.

All the types are designed for continuous operation.

Model Similarity:

GT*961200P****, GT*96900P****,

The 1st "*" part can be "M" or "-" or "H" for market identification and not related to safety.

The 2nd "*" denotes the rated output wattage designation, which can be "-01" to "-120", "-" is optional, with interval of 1W.

The 3rd "*" denotes the standard rated output voltage designation, which can be "12" to "54" or "12.0" to "54.0" with interval of 0.1V.

The 4th "*"

=-T2 means desktop class II with C8 AC inlet

=-T2A means desktop class II with C18 AC inlet

=-T3 means desktop class I with C14 AC inlet

=-T3TAB means desktop class I with C14 AC inlet and housing with a tab.

=-T3A means desktop class I with C6 AC inlet

=-TW means desktop class II with input wire without plug

=-TP means desktop class II with power supply cord with plug

=-TW3 means desktop class I with input wire without plug

=-TP3 means desktop class I with power supply cord with plug

=-P2 means Encapsulated type, class II, with two-core input wire, IP 68

=-P3 means Encapsulated type, class I, with three-core input wire, IP 68

The last "*" denotes any six character = 0-9 or A-Z or ()[] or – or blank for marketing purposes

Ratings:

Input: 100-240V~, 50-60Hz, 1.5A;

Output: 12-54Vdc, Max. 9.2A, Max 120W

Model	Output Voltage	Max. output current	Max. output power	Rated maximum ambient temperature ta
GT*96900P**-T2/T2A/T3/T3A/T3TAB/TW/TP/P2/P3/TP3/TW3*	12-54Vdc	7.5A	90W	50°C
GT*961200P**-T2/T2A/T3/T3A/T3TAB/TW/TP/P2/P3/TP3/TW3*	15-54Vdc	8A	120W	40°C
	12-14.9Vdc	9.2A	111W	40°C

GT*961200P**** and GT*96900P**** series are same except the enclosure, input / output construction and parameters of transformer and some components to set different output ratings.

The transformers for different output voltage have same construction and core size but different winding turns.

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		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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	supply frequency (Hz)		P
	supply current (A)		P
	f) earthing symbol		N/A
	k) wiring diagram		N/A
	l) value of tc		N/A
	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) .....:	See page 5	P
	- rated output voltage U_{rated} (V) .....:	See page 5	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)		N/A
	j) number, type and wattage of lamp(s)		P
	s) SELV symbol		N/A
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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (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 .....:	Max. 33.6V (For GTM961200P11012-T2)	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		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.	54.16VDC max. For GTM961200P12054-T2	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		P
	Y1 or Y2 capacitors comply with IEC 60384-14	Y1	P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	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**		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**		**P**
	Comply with clause 8 and 9.1		N/A
	Functional earth insulated from live parts by double or reinforced insulation		N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (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 .....:	20mΩ (for GTM96900P9012-T3)	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
- (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 .....:		N/A
	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

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

12 (12)	**ELECTRIC STRENGTH**		**P**
- (12)	Immediately after clause 11 electric strength test for 1 min		P
	Basic insulation for SELV, test voltage 500 V		N/A
	Working voltage ≤ 50 V, test voltage 500 V		N/A
	Working voltage > 50 V ≤ 1000 V, test voltage (V):		P
	Basic insulation, 2U + 1000 V		N/A
	Supplementary insulation, 2U + 1000 V		N/A
	Double or reinforced insulation, 4U + 2000 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		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
	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)	P
- (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

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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
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**		**P**
	No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies	For GT*96900P**-P2/P3* and GT*961200P**-P2/P3*, the input and output connector should be evaluated in the end-use product.	P
	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		P
	- socket-outlets not admit plugs of other standardised system		P
	- socket-outlets without protective earth		P
- (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		P
	- 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
	SELV circuits insulated from non SELV circuits by double or reinforced insulation		P

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

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Clause	Requirement + Test	Result - Remark	Verdict
	Accessible conductive parts insulated from active parts of electric circuits by insulating according Table 6		P
	Requirements for Class II construction with equipotential bonding for protection against indirect contact with live parts:		N/A
	- all conductive parts are connected together		N/A
	- conductive parts are reliably connected together according test of IEC 60598-1 cl. 7.2.3		N/A
	- conductive parts comply with requirements of Annex A in case of insulation fault		N/A
17 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
- (16.1)	**General**		**P**
	Creepage distances and clearances according to 16.2 and 16.3		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**

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Clause	Requirement + Test	Result - Remark	Verdict
	Screws, current-carrying parts and connections in compliance with IEC 60598-1 (clause numbers between parentheses refer to IEC 60598-1)		P
(4.11)	**Electrical connections**		**P**
(4.11.1)	Contact pressure		P
(4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
(4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
(4.11.4)	Material of current-carrying parts		N/A
(4.11.5)	No contact to wood or mounting surface		N/A
(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; fixing enclosure	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)	N/A
- (18.3)	Glow-wire test ..... :	See Test Table 19 (18.3)	P
- (18.4)	Needle flame test ..... :	See Test Table 19 (18.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict

- (18.5)	Tracking test ..... :	See Test Table 19 (18.5)	P

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

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

14	**TABLE: tests of fault conditions**	**P**
Part	Simulated fault	Hazard
BD1	Short-circuit; fuse resistor open.	NO
C2	Short-circuit; fuse resistor open.	NO
Q1 pinG-S	Short-circuit; Unit work normally, no hazard.	NO
Q1 pinG-D	Short-circuit; fuse resistor open.	NO
Q1 pinD-S	Short-circuit; fuse resistor open.	NO
Q2 pinG-S	Short-circuit; Unit shutdown immediately recoverable no hazard.	NO
Q2 pinG-D	Short-circuit; fuse resistor open.	NO
Q2 pinD-S	Short-circuit; fuse resistor open.	NO
Q3 pinG-S	Short-circuit; Unit shutdown immediately recoverable no hazard.	NO
Q3 pinG-D	Short-circuit; fuse resistor open.	NO
Q3 pinD-S	Short-circuit; fuse resistor open.	NO
T1 pin1-2	Short-circuit; fuse resistor open.	NO
T1 pin5-6	Short-circuit; Unit shutdown immediately recoverable no hazard.	NO
T1 pin 9-B	Short-circuit; Unit shutdown immediately recoverable no hazard.	NO
T1 pin A-10	Short-circuit; Unit shutdown immediately recoverable no hazard.	NO
U1 pin3-21	Short-circuit; Unit shutdown immediately recoverable no hazard.	NO
U1 pin3-8	Short-circuit; Unit work normally, no hazard.	NO
R12	Short-circuit; Unit work normally, no hazard.	NO
D54	Short-circuit; Unit shutdown immediately recoverable no hazard.	NO

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Clause	Requirement + Test	Result - Remark	Verdict

C41	Short-circuit; Unit shutdown immediately recoverable no hazard.	NO
Output	Short-circuit; Unit shutdown immediately recoverable no hazard.	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	3.6	1.5	9	3.6	2.5	7
Working voltage (V) .....:					240Vrms / 340Vpeak		—
Frequency if applicable (kHz) .....:					50-60 Hz		—
PTI.....:					< 600 ☒ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					--		—
Pulse voltage if applicable (kV) .....:					--		—
Supplementary information: L and N before fuse.							
Distance 2:	B	2.8	1.5	9	2.8	2.5	7
Working voltage (V) .....:					240Vrms / 340Vpeak		—
Frequency if applicable (kHz) .....:					50-60 Hz		—
PTI.....:					< 600 ☒ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					--		—
Pulse voltage if applicable (kV) .....:					--		—
Supplementary information: Different pole of fuse							
Distance 3:	R	6.9	5.5	9	6.9	5.6	7
Working voltage (V) .....:					277Vrms / 540Vpeak		—
Frequency if applicable (kHz) .....:					20.4kHz		—
PTI.....:					< 600 ☒ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					--		—
Pulse voltage if applicable (kV) .....:					--		—
Supplementary information: Live parts - accessible parts							
Distance 4:	R	6.2	5.5	9	6.2	5.6	7
Working voltage (V) .....:					277Vrms / 540Vpeak		—
Frequency if applicable (kHz) .....:					20.4kHz		—

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Clause	Requirement + Test	Result - Remark	Verdict

PTI.....:					< 600 ☒ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					--		—
Pulse voltage if applicable (kV) .....:					--		—
Supplementary information: Primary to functional earth							
Distance 5:	R	11.0	5.5	9	11.0	5.6	7
Working voltage (V) .....:					277Vrms / 540Vpeak		—
Frequency if applicable (kHz) .....:					20.4kHz		—
PTI.....:					< 600 ☐ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					--		—
Pulse voltage if applicable (kV) .....:					--		—
Supplementary information: Live parts to secondary circuit over PCB							
Distance 6:	R	9.5	5.5	9	9.5	5.6	7
Working voltage (V) .....:					277Vrms / 540Vpeak		—
Frequency if applicable (kHz) .....:					20.4kHz		—
PTI.....:					< 600 ☐ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					--		—
Pulse voltage if applicable (kV) .....:					--		—
Supplementary information: Primary winding to secondary winding in Transformer							

** 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)
Enclosure (SE1X)	SABIC INNOVATIVE PLASTICS B V	125	1.54
Enclosure (SE1)	SABIC INNOVATIVE PLASTICS B V	125	1.54
Enclosure (SE100)	SABIC INNOVATIVE PLASTICS B V	125	1.34
Enclosure (CX7211)	SABIC INNOVATIVE PLASTICS B V	125	1.33

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Clause	Requirement + Test	Result - Remark	Verdict

Enclosure (EXCY0098)	SABIC INNOVATIVE PLASTICS B V	125	1.45
Enclosure (945)	SABIC INNOVATIVE PLASTICS B V	125	1.26
Enclosure (HF500R)	SABIC INNOVATIVE PLASTICS B V	125	1.47
Enclosure (LN-1250P)	TEIJIN CHEMICALS LTD	125	1.51
Enclosure (LN-1250G)	TEIJIN CHEMICALS LTD	125	1.50
Enclosure (C2950)	SABIC INNOVATIVE PLASTICS B V	125	1.55
Enclosure (SE1X)	SABIC JAPAN L L C	125	1.50
Enclosure (SE1)	SABIC JAPAN L L C	125	1.45
Enclosure (C2950)	SABIC JAPAN L L C	125	1.55
Enclosure (CX7211)	SABIC JAPAN L L C	125	1.58
Enclosure (945)	SABIC JAPAN L L C	125	1.52
Enclosure (HF500R)	SABIC JAPAN L L C	125	1.51
Enclosure (6485+)	COVESTRO DEUTSCHLAND AG [PC RESINS]	125	1.50
PCB (T2)	WALEX ELECTRONIC (WUXI) CO LTD	125	0.91
PCB (T2A)	WALEX ELECTRONIC (WUXI) CO LTD	125	0.90
PCB (T2B)	WALEX ELECTRONIC (WUXI) CO LTD	125	0.90
PCB (T4)	WALEX ELECTRONIC (WUXI) CO LTD	125	0.91
PCB (CEM1)	DONGGUAN HE TONG ELECTRONICS CO LTD	125	0.92

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Clause	Requirement + Test	Result - Remark	Verdict

PCB (2V0)	DONGGUAN HE TONG ELECTRONICS CO LTD	125	0.92
PCB (FR4)	DONGGUAN HE TONG ELECTRONICS CO LTD	125	0.92
PCB (02)	CHEERFUL ELECTRONIC (HK) LTD	125	0.89
PCB (03)	CHEERFUL ELECTRONIC (HK) LTD	125	0.88
PCB (03A)	CHEERFUL ELECTRONIC (HK) LTD	125	0.90
PCB (DS2)	DONGGUAN DAYSUN ELECTRONIC CO LTD	125	0.92
PCB (YLH-1)	SUZHOU CITY YILIHUA ELECTRONICS CO LTD	125	0.92
PCB (02V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	125	0.91
PCB (03V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	125	0.91
PCB (04V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	125	0.91
PCB (DKV0-3A)	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	125	0.92
PCB (DGV0-3A)	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	125	0.92

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Clause	Requirement + Test	Result - Remark	Verdict

PCB (C-2)	KUOTIANG ENT LTD	125	0.92
PCB (C-2A)	KUOTIANG ENT LTD	125	0.92
PCB (TCX)	SHENZHEN TONGCHUANGXIN ELECTRONICS CO LTD	125	0.94
PCB (PW-02)	PACIFIC WIN INDUSTRIAL LTD	125	0.93
PCB (PW-03)	PACIFIC WIN INDUSTRIAL LTD	125	0.94
PCB (1V0)	YUANMAN PRINTED CIRCUIT CO LTD	125	0.90
PCB (XK-2)	SUZHOU XINKE ELECTRONICS CO LTD	125	0.88
PCB (XK-3)	SUZHOU XINKE ELECTRONICS CO LTD	125	0.91
PCB (HS-S)	KUNSHAN CITY HUA SHENG CIRCUIT BOARD CO LTD	125	0.95
PCB (DFD-1)	JIANGSU DIFEIDA ELECTRONICS CO LTD	125	0.95
PCB (SJ-B)	HUIZHOU SHUNJIA ELECTRONICS CO LTD	125	0.91
PCB (211001)	SHANGHAI H-FAST ELECTRONIC CO LTD	125	0.92
PCB (411001)	SHANGHAI H-FAST ELECTRONIC CO LTD	125	0.91
Transformer bobbin (T375J)	CHANG CHUN PLASTICS CO LTD	125	1.12
Transformer bobbin (T375HF)	CHANG CHUN PLASTICS CO LTD	125	1.08

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Clause	Requirement + Test	Result - Remark	Verdict

Transformer bobbin (4130)	CHANG CHUN PLASTICS CO LTD	125	1.10
Transformer bobbin (PM-9820)	SUMITOMO BAKELITE CO LTD	125	1.15
Transformer bobbin (CP-J-8800)	HITACHI CHEMICAL CO LTD	125	1.12
Potting material (HB-5225A)	SUZHOU POCHELY ELECTRONIC MATERIAL CO LTD	125	1.70
Potting material (HB-5225B)	SUZHOU POCHELY ELECTRONIC MATERIAL CO LTD	125	1.70
Supplementary information:			

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

19 (18.3)	**TABLE: Glow-wire test**			**P**
Glow wire temperature.....:	650°C			—
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
Enclosure (SE1X)	SABIC INNOVATIVE PLASTICS B V	No	0	P
Enclosure (SE1)	SABIC INNOVATIVE PLASTICS B V	No	0	P
Enclosure (SE100)	SABIC INNOVATIVE PLASTICS B V	No	0	P

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Clause	Requirement + Test	Result - Remark		Verdict
Enclosure (CX7211)	SABIC INNOVATIVE PLASTICS B V	No	0	P
Enclosure (EXCY0098)	SABIC INNOVATIVE PLASTICS B V	No	0	P
Enclosure (945)	SABIC INNOVATIVE PLASTICS B V	No	0	P
Enclosure (HF500R)	SABIC INNOVATIVE PLASTICS B V	No	0	P
Enclosure (LN-1250P)	TEIJIN CHEMICALS LTD	No	0	P
Enclosure (LN-1250G)	TEIJIN CHEMICALS LTD	No	0	P
Enclosure (C2950)	SABIC INNOVATIVE PLASTICS B V	No	0	P
Enclosure (SE1X)	SABIC JAPAN L L C	No	0	P
Enclosure (SE1)	SABIC JAPAN L L C	No	0	P
Enclosure (C2950)	SABIC JAPAN L L C	No	0	P
Enclosure (CX7211)	SABIC JAPAN L L C	No	0	P
Enclosure (945)	SABIC JAPAN L L C	No	0	P
Enclosure (HF500R)	SABIC JAPAN L L C	No	0	P
Enclosure (6485+)	COVESTRO DEUTSCHLAND AG [PC RESINS]	No	0	P
PCB (T2)	WALEX ELECTRONIC (WUXI) CO LTD	No	0	P
PCB (T2A)	WALEX ELECTRONIC (WUXI) CO LTD	No	0	P
PCB (T2B)	WALEX ELECTRONIC (WUXI) CO LTD	No	0	P
PCB (T4)	WALEX ELECTRONIC (WUXI) CO LTD	No	0	P

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Clause	Requirement + Test	Result - Remark		Verdict
PCB (CEM1)	DONGGUAN HE TONG ELECTRONICS CO LTD	No	0	P
PCB (2V0)	DONGGUAN HE TONG ELECTRONICS CO LTD	No	0	P
PCB (FR4)	DONGGUAN HE TONG ELECTRONICS CO LTD	No	0	P
PCB (02)	CHEERFUL ELECTRONIC (HK) LTD	No	0	P
PCB (03)	CHEERFUL ELECTRONIC (HK) LTD	No	0	P
PCB (03A)	CHEERFUL ELECTRONIC (HK) LTD	No	0	P
PCB (DS2)	DONGGUAN DAYSUN ELECTRONIC CO LTD	No	0	P
PCB (YLH-1)	SUZHOU CITY YILIHUA ELECTRONICS CO LTD	No	0	P
PCB (02V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	No	0	P
PCB (03V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	No	0	P
PCB (04V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	No	0	P
PCB (DKV0-3A)	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	No	0	P
PCB (DGV0-3A)	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	No	0	P
PCB (C-2)	KUOTIANG ENT LTD	No	0	P
PCB (C-2A)	KUOTIANG ENT LTD	No	0	P
PCB (TCX)	SHENZHEN TONGCHUANGXIN ELECTRONICS CO LTD	No	0	P
PCB (PW-02)	PACIFIC WIN INDUSTRIAL LTD	No	0	P
PCB (PW-03)	PACIFIC WIN INDUSTRIAL LTD	No	0	P
PCB (1V0)	YUANMAN PRINTED CIRCUIT CO LTD	No	0	P

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Clause	Requirement + Test	Result - Remark		Verdict
PCB (XK-2)	SUZHOU XINKE ELECTRONICS CO LTD	No	0	P
PCB (XK-3)	SUZHOU XINKE ELECTRONICS CO LTD	No	0	P
PCB (HS-S)	KUNSHAN CITY HUA SHENG CIRCUIT BOARD CO LTD	No	0	P
PCB (DFD-1)	JIANGSU DIFEIDA ELECTRONICS CO LTD	No	0	P
PCB (SJ-B)	HUIZHOU SHUNJIA ELECTRONICS CO LTD	No	0	P
PCB (211001)	SHANGHAI H-FAST ELECTRONIC CO LTD	No	0	P
PCB (411001)	SHANGHAI H-FAST ELECTRONIC CO LTD	No	0	P
Transformer bobbin (T375J)	CHANG CHUN PLASTICS CO LTD	No	0	P
Transformer bobbin (T375HF)	CHANG CHUN PLASTICS CO LTD	No	0	P
Transformer bobbin (4130)	CHANG CHUN PLASTICS CO LTD	No	0	P
Transformer bobbin (PM-9820)	SUMITOMO BAKELITE CO LTD	No	0	P
Transformer bobbin (CP-J-8800)	HITACHI CHEMICAL CO LTD	No	0	P
Potting material (HB-5225A)	SUZHOU POCHELY ELECTRONIC MATERIAL CO LTD	No	0	P
Potting material (HB-5225B)	SUZHOU POCHELY ELECTRONIC MATERIAL CO LTD	No	0	P
Supplementary information:				

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Clause	Requirement + Test	Result - Remark	Verdict

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 (SE1X)	SABIC INNOVATIVE PLASTICS B V	10	No	0	P
Enclosure (SE1)	SABIC INNOVATIVE PLASTICS B V	10	No	0	P
Enclosure (SE100)	SABIC INNOVATIVE PLASTICS B V	10	No	0	P
Enclosure (CX7211)	SABIC INNOVATIVE PLASTICS B V	10	No	0	P
Enclosure (EXCY0098)	SABIC INNOVATIVE PLASTICS B V	10	No	0	P
Enclosure (945)	SABIC INNOVATIVE PLASTICS B V	10	No	0	P
Enclosure (HF500R)	SABIC INNOVATIVE PLASTICS B V	10	No	0	P
Enclosure (LN-1250P)	TEIJIN CHEMICALS LTD	10	No	0	P
Enclosure (LN-1250G)	TEIJIN CHEMICALS LTD	10	No	0	P
Enclosure (C2950)	SABIC INNOVATIVE PLASTICS B V	10	No	0	P
Enclosure (SE1X)	SABIC JAPAN L L C	10	No	0	P
Enclosure (SE1)	SABIC JAPAN L L C	10	No	0	P
Enclosure (C2950)	SABIC JAPAN L L C	10	No	0	P
Enclosure (CX7211)	SABIC JAPAN L L C	10	No	0	P
Enclosure (945)	SABIC JAPAN L L C	10	No	0	P
Enclosure (HF500R)	SABIC JAPAN L L C	10	No	0	P

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Clause	Requirement + Test		Result - Remark		Verdict
Enclosure (6485+)	COVESTRO DEUTSCHLAND AG [PC RESINS]	10	No	0	P
PCB (T2)	WALEX ELECTRONIC (WUXI) CO LTD	10	No	0	P
PCB (T2A)	WALEX ELECTRONIC (WUXI) CO LTD	10	No	0	P
PCB (T2B)	WALEX ELECTRONIC (WUXI) CO LTD	10	No	0	P
PCB (T4)	WALEX ELECTRONIC (WUXI) CO LTD	10	No	0	P
PCB (CEM1)	DONGGUAN HE TONG ELECTRONICS CO LTD	10	No	0	P
PCB (2V0)	DONGGUAN HE TONG ELECTRONICS CO LTD	10	No	0	P
PCB (FR4)	DONGGUAN HE TONG ELECTRONICS CO LTD	10	No	0	P
PCB (02)	CHEERFUL ELECTRONIC (HK) LTD	10	No	0	P
PCB (03)	CHEERFUL ELECTRONIC (HK) LTD	10	No	0	P
PCB (03A)	CHEERFUL ELECTRONIC (HK) LTD	10	No	0	P
PCB (DS2)	DONGGUAN DAYSUN ELECTRONIC CO LTD	10	No	0	P
PCB (YLH-1)	SUZHOU CITY YILIHUA ELECTRONICS CO	10	No	0	P

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Clause	Requirement + Test		Result - Remark		Verdict
	LTD				
PCB (02V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	10	No	0	P
PCB (03V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	10	No	0	P
PCB (04V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	10	No	0	P
PCB (DKV0-3A)	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	10	No	0	P
PCB (DGV0-3A)	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	10	No	0	P
PCB (C-2)	KUOTIANG ENT LTD	10	No	0	P
PCB (C-2A)	KUOTIANG ENT LTD	10	No	0	P
PCB (TCX)	SHENZHEN TONGCHUANGXIN ELECTRONICS CO LTD	10	No	0	P
PCB (PW-02)	PACIFIC WIN INDUSTRIAL LTD	10	No	0	P
PCB (PW-03)	PACIFIC WIN INDUSTRIAL LTD	10	No	0	P
PCB (1V0)	YUANMAN PRINTED CIRCUIT CO LTD	10	No	0	P
PCB (XK-2)	SUZHOU XINKE ELECTRONICS CO LTD	10	No	0	P
PCB (XK-3)	SUZHOU XINKE ELECTRONICS CO LTD	10	No	0	P
PCB (HS-S)	KUNSHAN CITY HUA SHENG	10	No	0	P

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

	CIRCUIT BOARD CO LTD				
PCB (DFD-1)	JIANGSU DIFEIDA ELECTRONICS CO LTD	10	No	0	P
PCB (SJ-B)	HUIZHOU SHUNJIA ELECTRONICS CO LTD	10	No	0	P
PCB (211001)	SHANGHAI H-FAST ELECTRONIC CO LTD	10	No	0	P
PCB (411001)	SHANGHAI H-FAST ELECTRONIC CO LTD	10	No	0	P
Transformer bobbin (T375J)	CHANG CHUN PLASTICS CO LTD	10	No	0	P
Transformer bobbin (T375HF)	CHANG CHUN PLASTICS CO LTD	10	No	0	P
Transformer bobbin (4130)	CHANG CHUN PLASTICS CO LTD	10	No	0	P
Transformer bobbin (PM-9820)	SUMITOMO BAKELITE CO LTD	10	No	0	P
Transformer bobbin (CP-J-8800)	HITACHI CHEMICAL CO LTD	10	No	0	P
Potting material (HB-5225A)	SUZHOU POCHELY ELECTRONIC MATERIAL CO LTD	10	No	0	P
Potting material (HB-5225B)	SUZHOU POCHELY ELECTRONIC MATERIAL CO LTD	10	No	0	P
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

19 (18.5)	TABLE: Proof tracking test				P
Test voltage PTI .....:		175 V			—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
Enclosure (SE1X)	SABIC INNOVATIVE PLASTICS B V	Yes	Yes	Yes	P
Enclosure (SE1)	SABIC INNOVATIVE PLASTICS B V	Yes	Yes	Yes	P
Enclosure (SE100)	SABIC INNOVATIVE PLASTICS B V	Yes	Yes	Yes	P
Enclosure (CX7211)	SABIC INNOVATIVE PLASTICS B V	Yes	Yes	Yes	P
Enclosure (EXCY0098)	SABIC INNOVATIVE PLASTICS B V	Yes	Yes	Yes	P
Enclosure (945)	SABIC INNOVATIVE PLASTICS B V	Yes	Yes	Yes	P
Enclosure (HF500R)	SABIC INNOVATIVE PLASTICS B V	Yes	Yes	Yes	P
Enclosure (LN-1250P)	TEIJIN CHEMICALS LTD	Yes	Yes	Yes	P
Enclosure (LN-1250G)	TEIJIN CHEMICALS LTD	Yes	Yes	Yes	P
PCB (T2)	WALEX ELECTRONIC (WUXI) CO LTD	Yes	Yes	Yes	P
PCB (T2A)	WALEX ELECTRONIC (WUXI) CO LTD	Yes	Yes	Yes	P
PCB (T2B)	WALEX ELECTRONIC (WUXI) CO LTD	Yes	Yes	Yes	P
PCB (T4)	WALEX ELECTRONIC (WUXI) CO LTD	Yes	Yes	Yes	P
PCB (CEM1)	DONGGUAN HE TONG ELECTRONICS CO LTD	Yes	Yes	Yes	P
PCB (2V0)	DONGGUAN HE TONG ELECTRONICS CO LTD	Yes	Yes	Yes	P

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Clause	Requirement + Test		Result - Remark		Verdict
PCB (FR4)	DONGGUAN HE TONG ELECTRONICS CO LTD	Yes	Yes	Yes	P
PCB (02)	CHEERFUL ELECTRONIC (HK) LTD	Yes	Yes	Yes	P
PCB (03)	CHEERFUL ELECTRONIC (HK) LTD	Yes	Yes	Yes	P
PCB (03A)	CHEERFUL ELECTRONIC (HK) LTD	Yes	Yes	Yes	P
PCB (DS2)	DONGGUAN DAYSUN ELECTRONIC CO LTD	Yes	Yes	Yes	P
PCB (YLH-1)	SUZHOU CITY YILIHUA ELECTRONICS CO LTD	Yes	Yes	Yes	P
PCB (02V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	Yes	Yes	Yes	P
PCB (03V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	Yes	Yes	Yes	P
PCB (04V0)	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	Yes	Yes	Yes	P
PCB (DKV0-3A)	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	Yes	Yes	Yes	P
PCB (DGV0-3A)	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	Yes	Yes	Yes	P
PCB (C-2)	KUOTIANG ENT LTD	Yes	Yes	Yes	P
PCB (C-2A)	KUOTIANG ENT LTD	Yes	Yes	Yes	P
PCB (TCX)	SHENZHEN TONGCHUANGXIN ELECTRONICS CO LTD	Yes	Yes	Yes	P
PCB (PW-02)	PACIFIC WIN INDUSTRIAL LTD	Yes	Yes	Yes	P
PCB (PW-03)	PACIFIC WIN INDUSTRIAL LTD	Yes	Yes	Yes	P

IEC 61347-2-13					
Clause	Requirement + Test		Result - Remark		Verdict
PCB (1V0)	YUANMAN PRINTED CIRCUIT CO LTD	Yes	Yes	Yes	P
PCB (XK-2)	SUZHOU XINKE ELECTRONICS CO LTD	Yes	Yes	Yes	P
PCB (XK-3)	SUZHOU XINKE ELECTRONICS CO LTD	Yes	Yes	Yes	P
PCB (HS-S)	KUNSHAN CITY HUA SHENG CIRCUIT BOARD CO LTD	Yes	Yes	Yes	P
PCB (DFD-1)	JIANGSU DIFEIDA ELECTRONICS CO LTD	Yes	Yes	Yes	P
PCB (SJ-B)	HUIZHOU SHUNJIA ELECTRONICS CO LTD	Yes	Yes	Yes	P
PCB (211001)	SHANGHAI H-FAST ELECTRONIC CO LTD	Yes	Yes	Yes	P
PCB (411001)	SHANGHAI H-FAST ELECTRONIC CO LTD	Yes	Yes	Yes	P
Transformer bobbin (T375J)	CHANG CHUN PLASTICS CO LTD	Yes	Yes	Yes	P
Transformer bobbin (T375HF)	CHANG CHUN PLASTICS CO LTD	Yes	Yes	Yes	P
Transformer bobbin (4130)	CHANG CHUN PLASTICS CO LTD	Yes	Yes	Yes	P
Transformer bobbin (PM-9820)	SUMITOMO BAKELITE CO LTD	Yes	Yes	Yes	P
Transformer bobbin (CP-J-8800)	HITACHI CHEMICAL CO LTD	Yes	Yes	Yes	P
Potting material (HB-5225A)	SUZHOU POCHELY ELECTRONIC MATERIAL CO LTD	Yes	Yes	Yes	P
Potting material (HB-5225B)	SUZHOU POCHELY ELECTRONIC MATERIAL CO LTD	Yes	Yes	Yes	P
Supplementary information:					

IEC 61347-2-13			
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 .....:	54.19VDC max. For GTM961200P12054-T2	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

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Clause	Requirement + Test	Result - Remark	Verdict
(C6.2)	Declaration of the type of protection provided		N/A
(C7)	**LIMITATION OF HEATING**		**N/A**
(C7.1)	**Preselection test:**		**N/A**
	Test sample placed for at least 12 h in an oven having temperature (t_c - 5) K		N/A
	No operation of the protection device		N/A
(C7.2)	**Functioning of protection means:**		**N/A**
	Normal operation of the sample in a test enclosure according to Annex D at an ambient temperature such that (t_c +0; -5) °C is obtained		N/A
	No operation of the protection device		N/A
	Introducing of the most onerous test condition determined during test of clause 14.2 to 14.5		N/A
	Output of windings connected to the mains supply short-circuited, and other part of the controlgear operated under normal conditions		N/A
	Increasing of the current through the windings continuously until operation of the protection means		N/A
	Continuous measuring of the highest surface temperature		N/A
	Ballasts according to C5 a) or C5 e) operated until stable conditions are achieved		N/A
	Automatic-resetting thermal protectors working 3 times		N/A
	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

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Clause	Requirement + Test	Result - Remark	Verdict

(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		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

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Clause	Requirement + Test	Result - Remark	Verdict
	Value if capacitor t_c marked .....:		—
	Winding insulation classified as Class .....:		—
	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
	Between metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 MΩ .....:	199 MΩ	P
(L.8.3)	Electric strength		P
	1) Between live parts of input circuits and live parts of output circuits .....:	3000 V	P
	2) Over basic or supplementary insulation between:		N/A
	a) live parts having different polarity .....:		N/A
	b) live parts and body if intended to be connected to protective earth .....:		N/A
	c) accessible metal parts and a metal rod of the same diameter as the flexible cable or cord ...:		N/A
	d) live parts and an intermediate metal part ...:		N/A
	e) intermediate metal parts and the body .....:		N/A
	f) each input circuit and all other input circuits :		N/A
	3) Over reinforced insulation between the body and live parts .....:		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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	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	insulation between input and output circuits, double or reinforced insulation: cr. = cl. = 6.2 mm > 5.6 mm	P
	Distance through insulation according Table L.5 in IEC 61347-1		P
	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) .....:		—
	Measured (mm) .....:		N/A
	Supplementary information		—
	3) Reinforced distance through insulation		P
	Required distance (mm) .....:	0.83	—
	Measured (mm) .....:	2.0 (Enclosure)	P
	Supplementary information		—

J (-)	**ANNEX J IN THIS PART 2 – PARTICULAR ADDITIONAL SAFETY REQUIREMENTS FOR A.C., A.C./D.C. OR D.C. SUPPLIED ELECTRONIC CONTROLGEAR FOR EMERGENCY LIGHTING**		N/A
J.1	**General**		**N/A**
	Intended for centralized emergency power supply	Yes ☐ No ☐	—
J.2	**Marking**		**N/A**
J.2.1	Mandatory markings		N/A
	a) symbol EL		N/A
	b) rated emergency supply voltage (V)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
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

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Clause	Requirement + Test	Result - Remark	Verdict
(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 % 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
	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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 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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
	Basic or supplementary insulation:		N/A
	Required creepage .....:		—
	Measured .....:		N/A
	Supplementary information		—
	Reinforced insulation:		N/A
	Required creepage .....:		—
	Measured .....:		N/A
	Supplementary information		—

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Clause	Requirement + Test	Result - Remark	Verdict
(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)]**
Enclosure (all parts)	C	SABIC INNOVATIVE PLASTICS B V	SE1X, SE1 (UL E45329)	PPE+PS, Min. V-1, Min. thickness: 2.0mm, 105°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SABIC INNOVATIVE PLASTICS B V	SE100 (UL E45329)	PPE+PS, Min. V-1, Min. thickness: 2.0mm, 95°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SABIC INNOVATIVE PLASTICS B V	CX7211 EXCY0098 (UL E45329)	PC/ABS, Min. V-1, Min. thickness: 2.0mm, 90°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SABIC INNOVATIVE PLASTICS B V	945 (UL E45329)	PC, Min. V-1, Min. thickness: 2.0mm, 120°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SABIC INNOVATIVE PLASTICS B V	HF500R (UL E45329)	PC, V-0, Min. thickness: 2.0mm, 125°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	TEIJIN LIMITED RESIN AND PLASTIC	LN-1250P(#)(f1), LN-1250G(#)(*) (UL E50075)	PC, Min. V-0, Min. thickness: 2.0mm, 115°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SABIC INNOVATIVE PLASTICS B V	C2950 (UL E45329)	PC, Min. V-0, Min. thickness: 2.0mm, 105°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SABIC JAPAN L L C	SE1X, SE1 (UL E207780)	PPE+PS, Min. V-1, Min. thickness: 2.0mm, 105°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SABIC JAPAN L L C	C2950 (UL E207780)	PC/ABS, Min. V-0, Min. thickness: 2.0mm, 105°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SABIC JAPAN L L C	CX7211 (UL E207780)	PC/ABS, Min. V-0, Min. thickness: 2.0mm, 90°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SABIC JAPAN L L C	945 (UL E207780)	PC, Min. V-0, Min. thickness: 2.0mm, 120°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance

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Clause	Requirement + Test	Result - Remark	Verdict

Alt. use	C	SABIC JAPAN L L C	HF500R (UL E207780)	PC, V-0, Min. thickness: 2.0mm, 125°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	COVESTRO DEUTSCHLAND AG [PC RESINS]	6485+ (UL E41613)	PC, V-0, Min. thickness: 2.0mm, 115°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Appliance inlet CN1 Class I units (C6 type)	A	Zhejiang LECI Electronics Co., Ltd.	DB-6	2.5A, 250Vac	IEC/EN 60320-1	VDE 40032465
Alt. use	A	Rich Bay Co., Ltd.	R-30790	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030381
Alt. use	A	Sun Fair Electric Wire & Cable (HK) Co. Ltd.	S-02	2.5A, 250Vac	IEC/EN 60320-1	VDE 40034448
Alt. use	A	TECX-UNIONS Technology Corporation	TU-333	2.5A, 250Vac	IEC/EN 60320-1	ENEC 00633
Alt. use	A	Rong Feng Industrial Co., Ltd.	RF-190	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030379
Alt. use	A	Inalways Corporation	0724	2.5A, 250Vac	IEC/EN 60320-1	ENEC 2010080
Alt. use	A	Zhe Jiang Bei Er jia	ST-A04-002	2.5A, 250Vac	IEC/EN 60320-1	VDE 40016045
Alt. use	A	Shenzhen Delikang Electronics Technology Co. Ltd.	CDJ-2	2.5A, 250Vac	IEC/EN 60320-1	VDE 40015580
Appliance inlet CN1 Class I units (C14 type)	A	Zhejiang LECI Electronics Co., Ltd.	DB-14	10A, 250Vac	IEC/EN 60320-1	VDE 40032137
Alt. use	A	Rich Bay Co., Ltd.	R-301SN	10A, 250Vac	IEC/EN 60320-1	VDE 40030228
Alt. use	A	Sun Fair Electric Wire & Cable (HK)Co. Ltd.	S-03	10A, 250Vac	IEC/EN 60320-1	VDE 40034447
Alt. use	A	TECX-UNIONS Technology Corporation	TU-301-S, TU-301-SP	10A, 250Vac	IEC/EN 60320-1	ENEC 00647
Alt. use	A	Rong Feng Industrial Co., Ltd.	SS-120	10A, 250Vac	IEC/EN 60320-1	VDE 40028101
Alt. use	A	Inalways Corporation	0711	10A, 250Vac	IEC/EN 60320-1	ENEC 2010084

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

Alt. use	A	Zhe Jiang Bei Er jia	ST-A01-003J	10A, 250Vac	IEC/EN 60320-1	VDE 40013388
Appliance inlet CN1 Class II units (C8 type)	A	Zhejiang LECI Electronics Co., Ltd.	DB-8	2.5A, 250Vac	IEC/EN 60320-1	VDE 40032028
Alt. use	A	Rich Bay Co., Ltd.	R-201SN90	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030384
Alt. use	A	Sun Fair Electric Wire & Cable (HK)Co. Ltd.	S-01	2.5A, 250Vac	IEC/EN 60320-1	VDE 40034449
Alt. use	A	TECX-UNIONS Technology Corporation	SO-222	2.5A, 250Vac	IEC/EN 60320-1	VDE 40043268
Alt. use	A	Rong Feng Industrial Co., Ltd.	RF-180	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030168
Alt. use	A	Inalways Corporation	0721	2.5A, 250Vac	IEC/EN 60320-1	ENEC 2010087
Alt. use	A	Zhe Jiang Bei Er jia	ST-A03-005	2.5A, 250Vac	IEC/EN 60320-1	VDE 40014833
Alt. use	A	Shenzhen Delikang Electronics Technology Co. Ltd.	CDJ-8	2.5A, 250Vac	IEC/EN 60320-1	VDE 40025531
Appliance inlet CN1 Class II units (C18 type)	A	Rong Feng Industrial Co.,Ltd	SS-120	10A,250V standard sheet C14	IEC/EN 60320-1	VDE 40028101
Alt. use	A	Rich Bay Co., Ltd.	R-301SN	10A, 250V; standard sheet C14	IEC/EN 60320-1	VDE 40030228
PCB	C	WALEX ELECTRONIC (WUXI) CO LTD	T2, T2A, T2B T4	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1 2V0 FR4	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	CHEERFUL ELECTRONIC (HK) LTD	02 03 03A	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	DONGGUAN DAYSUN ELECTRONIC CO LTD	DS2	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance

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

Alt. use	C	SUZHOU CITY YILIHUA ELECTRONICS CO LTD	YLH-1	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	02V0 03V0 04V0	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	DKV0-3A DGV0-3A	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	KUOTIANG ENT LTD	C-2 C-2A	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SHENZHEN TONGCHUANGXIN ELECTRONICS CO LTD	TCX	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	PACIFIC WIN INDUSTRIAL LTD	PW-02 PW-03	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	YUANMAN PRINTED CIRCUIT CO LTD	1V0	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SUZHOU XINKE ELECTRONICS CO LTD	XK-2, XK-3	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	KUNSHAN CITY HUA SHENG CIRCUIT BOARD CO LTD	HS-S	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	JIANGSU DIFEIDA ELECTRONICS CO LTD	DFD-1	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	HUIZHOU SHUNJIA ELECTRONICS CO LTD	SJ-B	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SHANGHAI H-FAST ELECTRONIC CO LTD	211001,411001	min. V-0, 130°C, min. thickness: 1.66 mm	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance

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

Mylar Insulating sheet used between the transformer and secondary D53, D54	C	TORAY INDUSTRIES INC	Lumirror H10	VTM-2, min. 0.4 mm thickness, 105°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	SKC CO LTD	SH71S	VTM-2, min. 0.4 mm thickness, 105°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	FORMEX,DIV OF IL TOOL WORKS INC, FRMRLY FASTEX, DIV OF IL TOOL WORKS INC	FORMEX GK series	V-0, min. 0.4 mm thickness, 115°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	SABIC INNOVATIVE PLASTICS US L L C	FR60 series FR63 series FR65 series FR7 series FR700 series	V-0, min. 0.4 mm thickness, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	MIANYANG LONGHUA FILM CO LTD	PP-BK-20 PP-BK-17 PP-BK-18	VTM-0, min. 0.4 mm thickness, 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX PP WT-10 series	VTM-0, min. 0.4 mm thickness, 110°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX FRPC-1860B	VTM-0, min. 0.4 mm thickness, 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Insulating tape wrapping around the heatsink (Use insulation tape will not use Insulating tube)	C	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1 1350T-1	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	BONDTEC PACIFIC CO LTD	370S	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance

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

Alt.	C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Insulating tube used on Class I AC inlet pin or heatsink (Heatsink using insulating tube not use insulation tape)	C	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR RSFR-H RSFR-HPF	600V, 125°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	QIFURUI ELECTRONICS CO	QFR-h	600V, 125°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	DONGGUAN SALIPT CO LTD	SALIPT S-901-300 SALIPT S-901-600	Min. 300V, 125°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2 (+) K-2 (CB)	Min. 300V, 125°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt.	C	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT	Min. 300V, 125°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Fuse (F1, F2) (F2 is optional)	A	Conquer Electronics Co., Ltd.	MST series	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40017118
Alt. use	A	Ever Island Electric Co., Ltd. And Walter Electric	2010, ICP	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40018781
Alt. use	A	Bel Fuse Ltd.	RST-Serie(s)	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40011144
Alt. use	A	Cooper Bussmann LLC	SS-5	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40015513

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

Alt. use	A	Shenzhen Lanson Electronics Co. Ltd.	SMT	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40012592
Alt. use	A	Das & Sons International Ltd.	385T series	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40008524
Alt. use	A	Dongguan Better Electronics Technology Co., Ltd.	932	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40033369
Alt. use	A	Hollyland Company Limited	5ET	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40015669
Alt. use	A	Sunny East Enterprise Co. Ltd.	CFD-Serie(s)	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40030246
Alt. use	A	Conquer Electronics Co., Ltd.	MET series	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40017157
Alt. use	A	Zhongshan Lanbao Electrical Appliances Co., Ltd.	RTI-10 Serie(s)	T3.15A, 250V	IEC 60127-1 IEC 60127-3	VDE 40017009
Y capacitor (CY1, CY2) (Optional)	A	TDK Corporation	CD	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 40029780
Alt. use	A	Success Electronics Co., Ltd.	SE	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 40037211 VDE 40020002
Alt. use	A	Success Electronics Co., Ltd.	SB	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 40037221 VDE 40020001
Alt. use	A	Murata Mfg. Co., Ltd.	KX	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 40002831
Alt. use	A	Walsin Technology Corp.	AH	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 40001804
Alt. use	A	JYA-NAY Co., Ltd.	JN	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 40001831
Alt. use	A	Haohua Electronic Co.	CT 7	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 40003902
Alt. use	A	Jyh Chung Electronic Co., Ltd.	JD	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 137027

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Clause	Requirement + Test	Result - Remark	Verdict

Alt. use	A	Jerro Electronics Corp.	JX-series	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 40032158
Alt. use	A	WELSON INDUSTRIAL CO LT D	WD	Y1, AC250V, 125°C max. 2200pF	IEC/EN 60384-14	VDE 40016157
X capacitor (CX1) (Optional)	A	Tenta Electric Industrial Co. Ltd.	MEX	Min. 250VAC, 40/100/21/B, X1 or X2 Max. 0.22µF	IEC/EN 60384-14	VDE 119119
Alt. use	A	Joey Electronics (Dong Guan) Co., Ltd.	MPX	Min. 250VAC, 40/105/21/B, X1 or X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40032481
Alt. use	A	Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40015608
Alt. use	A	Yuon Yu Electronics Co. Ltd.	MPX	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40032392
Alt. use	A	Sinhua Electronics (Huzhou) Co., Ltd.	MPX	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40014686
Alt. use	A	Jiangsu Xinghua Huayu Electronics Co., Ltd.	MPX - Series	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40022417
Alt. use	A	Dain Electronics Co., Ltd.	MEX, MPX, NPX	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40018798
Alt. use	A	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Min. 250VAC, 40/110/56/B, X1 or X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40018690
Alt. use	A	Foshan Shunde Chuang Ge Electronic Industrial Co., Ltd.	MKP-X2	Min. 250VAC, 40/105/21/B, X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40008922
Alt. use	A	Okaya Electric Industries Co. LTD	RE-Series	Min. 250VAC, 55/100/56/C, X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40028657
Alt. use	A	VISHAY Capacitors Belgium NV	F 1772	Min. 250VAC, 40/100/56/C, X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40005095
Alt. use	A	Winday Electronic Industrial Co., Ltd.	MPX series	Min. 250VAC, 40/100/21/C, X2 Max. 0.22µF	IEC/EN 60384-14	VDE 40018071

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Clause	Requirement + Test	Result - Remark	Verdict

Photo coupler (U2)	A	Everlight Electronics Co., Ltd.	EL817	Dti=0.5mm Int. , dcr=6.0mm EXT.dcr=7.7mm, thermal cycling test,110°C	IEC/EN 60747-5-2	VDE 132249
Alt. use	A	COSMO Electronics Corporation	K1010 / KP1010	Dti=0.6mm Int. , dcr=4.0mm EXT.dcr=5.0mm, thermal cycling test,115°C	IEC/EN 60747-5-2	VDE 101347
Alt. use	A	Lite-On Technology Corporation	LTV-817	Dti=0.8mm Int. , EXT.dcr=7.8mm, thermal cycling test,110°C	IEC/EN 60747-5-2	VDE 40015248
Alt. use	A	Fairchild Semiconductor Pte Ltd.	H11A817B / FOD817B	Insulation voltage: 850V; Transient overvoltage: 6000V; CTI175; Int. Cr/ Ext. Cr: ≥7.0/ 7.0 mm; 30/110/21	IEC/EN 60747-5-2	VDE 40026857
Alt. use	A	Toshiba Corporation Semiconductor & Storage Products Company	TLP817F	Dti > 0.4mm, Ext cr > 8.0mm, Isolation 3000Vac min., 110°C min., Thermal cycling test	IEC/EN 60747-5-2	VDE 40021173
Varistor MOV1 (Optional)	A	Thinking Electronic Industrial Co., Ltd.	TVR10471K, TVR14471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 005944
Alt. use	A	Centra Science Corp.	10D471K, 14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 4008220
Alt. use	A	Success Electronics Co., Ltd.	SVR10D471K SVR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40030401
Alt. use	A	Walsin Technology Co., Ltd.	14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40010090
Alt. use	A	Lien Shun Electronics Co., Ltd.	14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40005858

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Clause	Requirement + Test	Result - Remark	Verdict

Alt. use	A	Ceramate Techn. Co., Ltd.	GNR10D471K GNR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40031745
Alt. use	A	Brightking (Shenzhen) Co., Ltd.	14D471K 10D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40027827
Alt. use	A	Joyin Co., Ltd.	JVR10N471K JVR14N471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 005937
Earthing wire for Class I model	C	KUNSHAN NEW ZHICHENG ELECTRONICS TECHNOLOGIES CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	ZHUANG SHAN CHUAN ELECTRICAL PRODUCTS (KUNSHAN) CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	DONGGUAN CHUANTAI WIRE PRODUCTS CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	YONG HAO ELECTRICAL INDUSTRY CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	DONGGUAN GUNEETAL WIRE & CABLE CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SHENG YU ENTERPRISE CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	KUNSHAN XINGHONGMEN G ELECTRONIC CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SUZHOU YEMAO ELECTRONIC CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance

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Output cord	A	Interchangeable	Interchangeable	Min. 24AWG, min. 300Vac, min. 80°C	ANSI/UL 758	UL approved
Potting material for IP68 models	C	SUZHOU POCHELY ELECTRONIC MATERIAL CO LTD	HB-5225A/B	V-0, 90°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Transformer (T1)	C	GlobTek / BOAM / HAOPUWEI / ENG	See attachment for details	Class B, with critical component listed below	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
- Magnet wire	C	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWN/U (UL E201757)	MW28-C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWS/U (UL E201757)	MW75-C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	JUNG SHING WIRE CO LTD	UEW-4 (UL E174837)	MW75C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	JUNG SHING WIRE CO LTD	UEY-2 (UL E174837)	MW28-C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	JIANGSU HONGLIU MAGNET WIRE TECHNOLOGY CO LTD	2UEW/130 (UL E335065)	MW75-C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	CHANGZHOU DAYANG WIRE & CABLE CO LTD	2UEW/130 (UL E158909)	MW75-C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	WUXI JUFENG COMPOUND LINE CO LTD	2UEWB (UL E206882)	MW 75-C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	JIANGSU DARTONG M & E CO LTD	UEW (UL E237377)	MW 75-C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	SHANDONG SAINT ELECTRIC CO LTD	UEW/130 (UL E194410)	MW 75-C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance

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Clause	Requirement + Test	Result - Remark	Verdict

Alt. use	C	ZHEJIANG LANGLI ELECTRIC EQUIPMENTS CO LTD	UEW (UL E222214)	MW 79-C, 155°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
Alt. use	C	NINGBO JINTIAN NEW MATERIAL CO LTD	2UEW/130 (UL E227047)	MW 75-C, 130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
-Triple-insulated wire (Secondary)	A	Great Leoflon Industrial Co., Ltd.	TRW (B) Serie(s)	Class B, reinforced insulation	IEC/EN 60950-1 EN 61558-1: Annex K	VDE 136581
- Alt. use	A	COSMOLINK CO. Ltd.	TIW-M Serie(s)	Class B, reinforced insulation	IEC 60950-1 IEC/EN 61558-1	VDE 138053
- Alt. use	A	Furukawa Electric Co., Ltd. Electronics & Automotive Systems Company Global Business Development Division	TEX-E	Class B, reinforced insulation	IEC 60950-1 EN 61558-2-16: Annex K	VDE 006735
- Alt. use	A	E&B TECHNOLOGY CO LTD	E&B-XXXB E&B-XXXB-1	Reinforced insulation, Class B	IEC 60950-1 EN 61558-1: Annex K	VDE 40023473
-Bobbin	C	CHANG CHUN PLASTICS CO LTD	T375J T375HF	V-0, 150°C, thickness 0.74 mm min.	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
- Alt. use	C	CHANG CHUN PLASTICS CO LTD	4130	V-0, 140°C, thickness 0.74 mm min.	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
- Alt. use	C	SUMITOMO BAKELITE CO LTD	PM-9820	V-0, 150°C, thickness 0.74 mm min.	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
- Alt. use	C	HITACHI CHEMICAL CO LTD	CP-J-8800	V-0, 150°C, thickness 0.74 mm min.	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
-Insulating tape	C	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1 1350T-1 44	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
- Alt. use	C	BONDTEC PACIFIC CO LTD	370S	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance

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

- Alt. use	C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT WF	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
- Alt. use	C	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
- Alt. use	C	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Min.130°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
-PTFE tubing	C	GREAT HOLDING INDUSTRIAL CO LTD	TFT / TFS	Min. 300V, 200°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
-Alt. use	C	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	WF	600V, 200°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance
-Alt. use	C	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-T / CB-TT-S	Min. 300V, 200°C	IEC/EN 61347-1 IEC/EN 61347-2-13	Tested with appliance

Supplementary information:
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.
The codes above have the following meaning:
A - The component is replaceable with another one, also certified, with equivalent characteristics
B - The component is replaceable if authorised by the test house
C - Integrated component tested together with the appliance
D - Alternative component

Attachment for transformer as below:

Voltage range	Transformer model	Secondary	Main Primary	Vcc Primary
12-13.4V	TF047	2X 2 Turns 80/0.1mm litz	31 turns 0.30mm TIW	3 turns 4X 0.2mm TIW
13.5-14.9V	TF075	2X 2 Turns 80/0.1mm litz	28 turns 0.30mm TIW	3 turns 4X 0.2mm TIW
15-16.9V	TF048	2X 2 Turns 80/0.1mm litz	26 turns 0.30mm TIW	3 turns 4X 0.2mm TIW
17-18.9V	TF076	2X 2 Turns 80.1mm litz	23 turns 0.30mm TIW	3 turns 4X 0.2mm TIW
19-21.3V	TF072	2X 3 Turns	30 turns	3 turns

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

		40/0.1mm litz	0.30mm TIW	3X 0.3mm TIW
21.4-23.9V	TF077	2X 3 Turns 40/0.1mm litz	26 turns 0.30mm TIW	3 turns 3X 0.3mm TIW
24-27.4V	TF049	2X 3 Turns 30/0.1mm litz	24 turns 0.30mm TIW	3 turns 3X 0.3mm TIW
27.5-31.4V	TF078	2X 4 Turns 23/0.1mm litz	28 turns 0.30mm TIW	3 turns 3X 0.3mm TIW
31.5-36V	TF073	2X 4 Turns 20/0.1mm litz	25 turns 0.30mm TIW	3 turns 3X 0.3mm TIW
36.1-41.9V	TF079	2X 5 Turns 15/0.1mm litz	26 turns 0.30mm TIW	3 turns 3X 0.3mm TIW
42-48V	TF050	2X 5 Turns 15/0.1mm litz	23 turns 0.30mm TIW	2 turns 3X 0.3mm TIW
48.1-54V	TF074	2X 6 Turns 12/0.1mm litz	23 turns 0.30mm TIW	3 turns 3X 0.3mm TIW

ANNEX 2	**Screw terminals (part of the luminaire)**		**N/A**
(14)	**SCREW TERMINALS**		**N/A**
(14.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm²) ..... :		—
(14.3.3)	Conductor space (mm)..... :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread).. :		N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm) ..... :		N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Torque (Nm) ..... :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N)..... :		N/A
(14.4.8)	Without undue damage		N/A

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

ANNEX 3	**Screwless terminals (part of the luminaire)**		**N/A**
(15)	**SCREWLESS TERMINALS**		**N/A**
(15.2)	Type of terminal ..... :		—
	Rated current (A) ..... :		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5)	Terminals and connections for internal wiring		N/A
(15.5.1)	Mechanical tests		N/A
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples) .. :		N/A
(15.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples) ..... :		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples) ..... :		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples) ..... :		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples) ..... :		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples) ..... :		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples) ..... :		N/A
(15.6)	Terminals and connections for external wiring		N/A

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

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

										N/A
Supplementary information:										

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

Appendix 1: CENELEC group difference

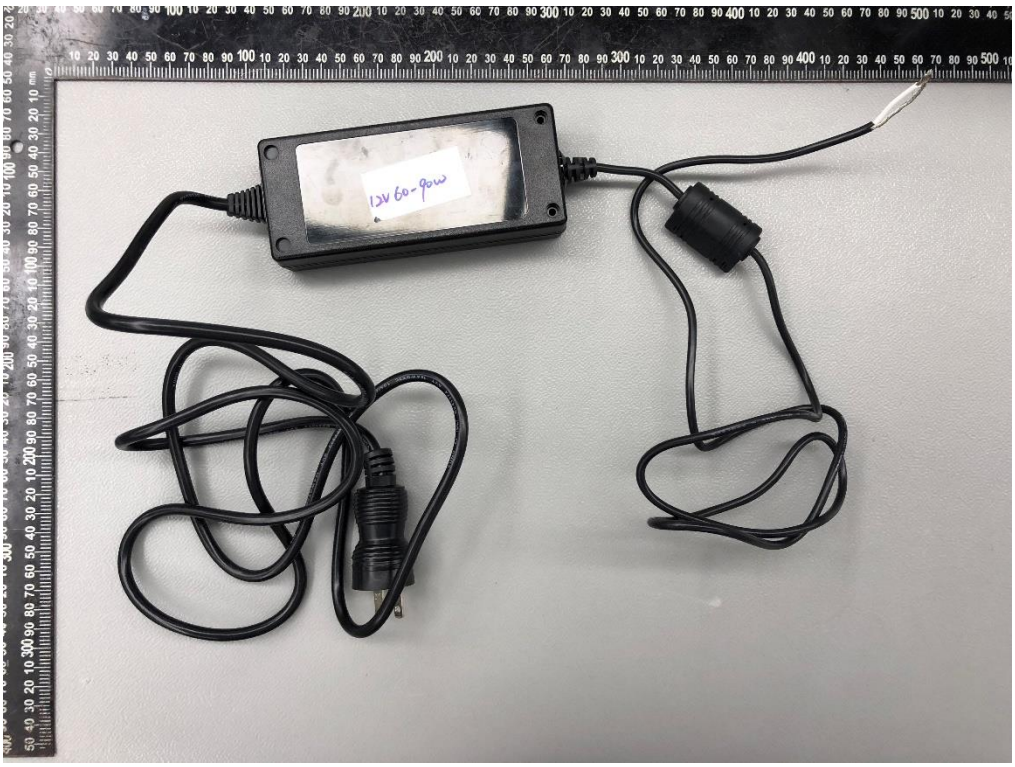
ATTACHMENT TO TEST REPORT IEC 61347-2-13 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Part 2: Particular requirements Section Thirteen – d.c. or a.c. supplied electronic controlgear for LED modules		
Differences according to.....: EN 61347-2-13:2014 + A1:2017 used in conjunction with EN 61347-1:2015		
	CENELEC COMMON MODIFICATIONS (EN)	-
	No Common modifications	**-**

Appendix 2: Photos

GT*96900P series, GT*961200P series External view

GT*96900P series, GT*961200P series External view

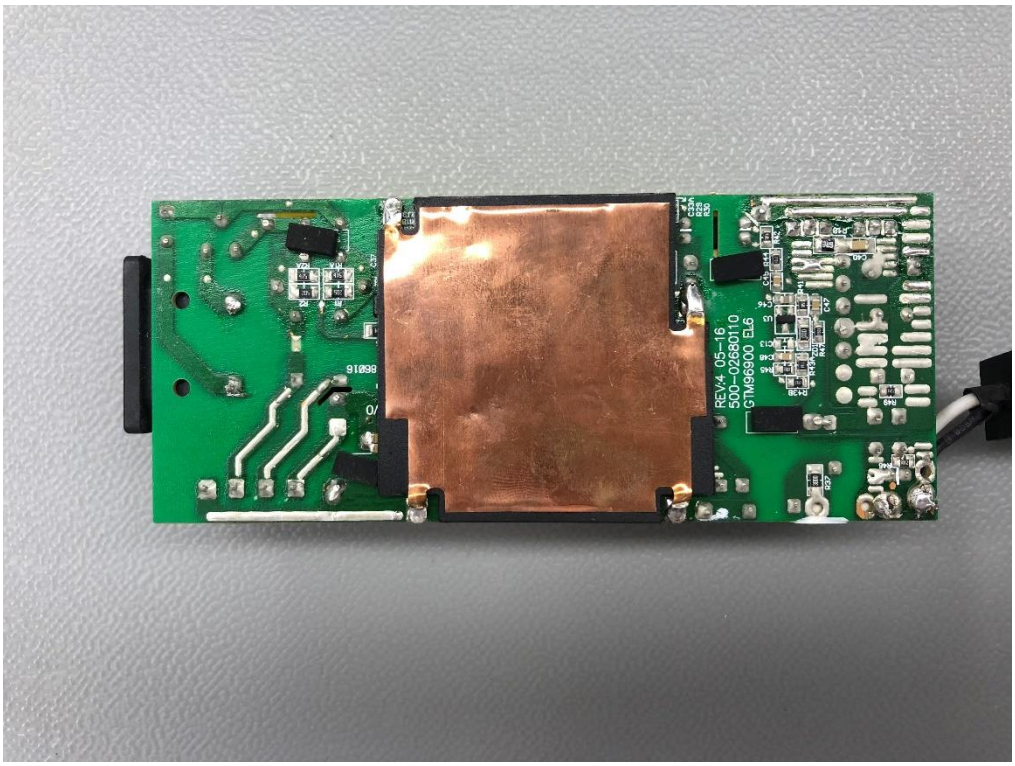
GT*96900P series, GT*961200P series External view



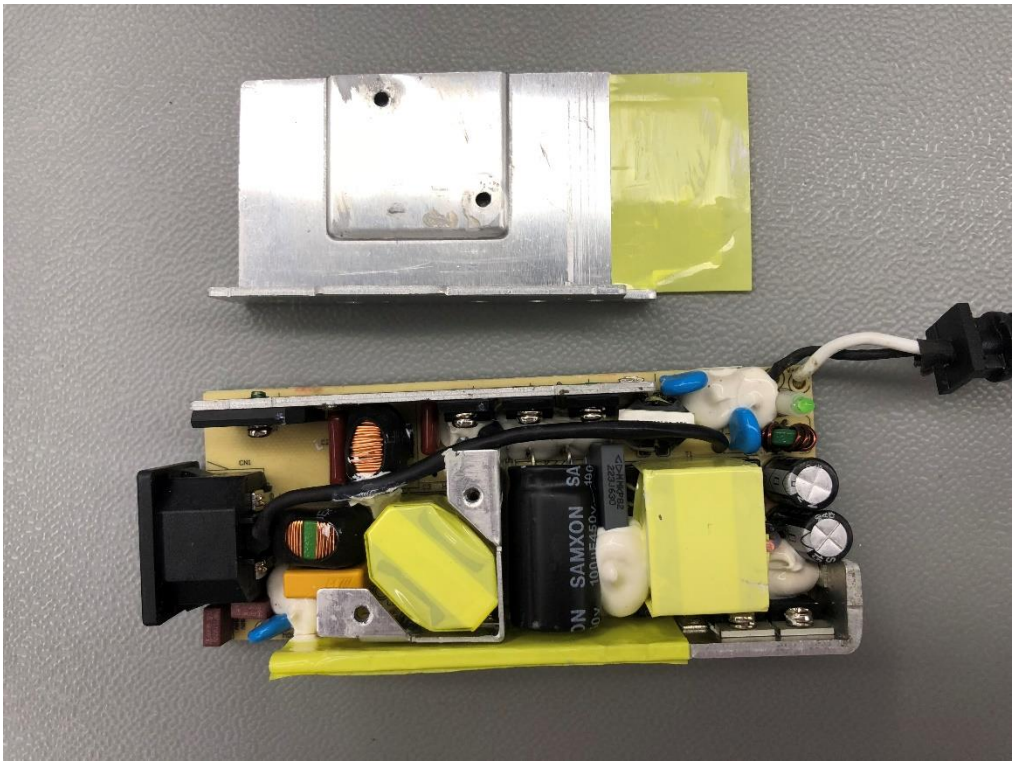
GT*96900P series, GT*961200P series Internal view

GT*96900P series, GT*961200P series Internal view (Class I)

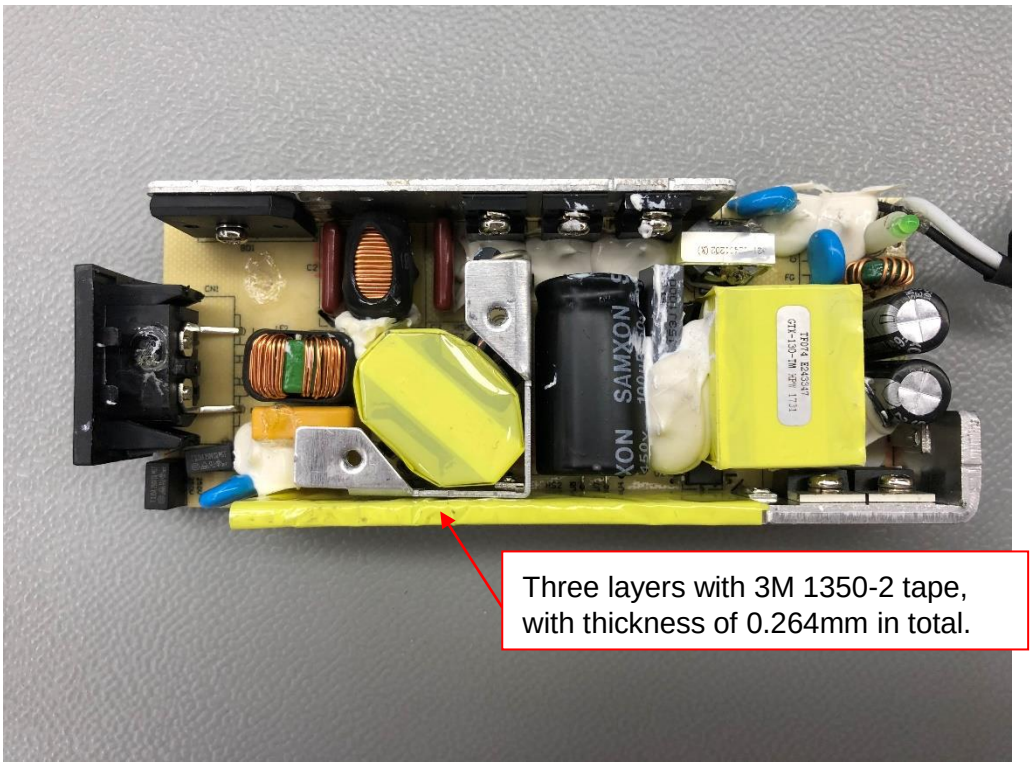
GT*96900P series, GT*961200P series Internal view (Class I)



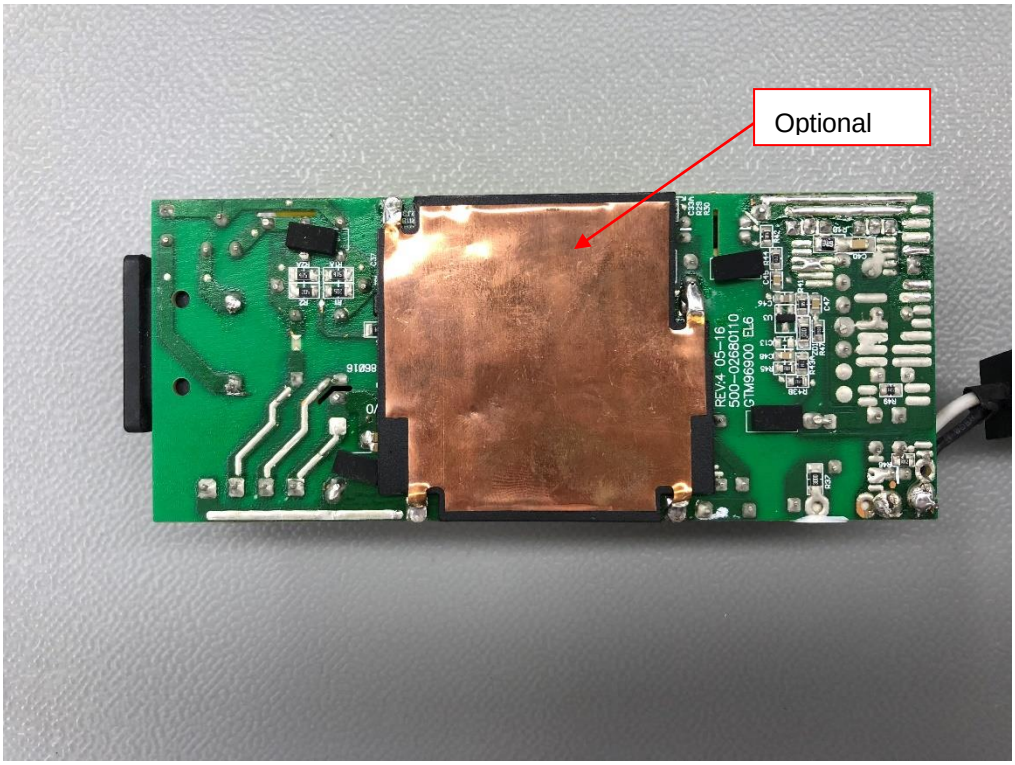
GT*96900P series, GT*961200P series Internal view (Class I)



GT*96900P series, GT*961200P series Internal view (Class II)

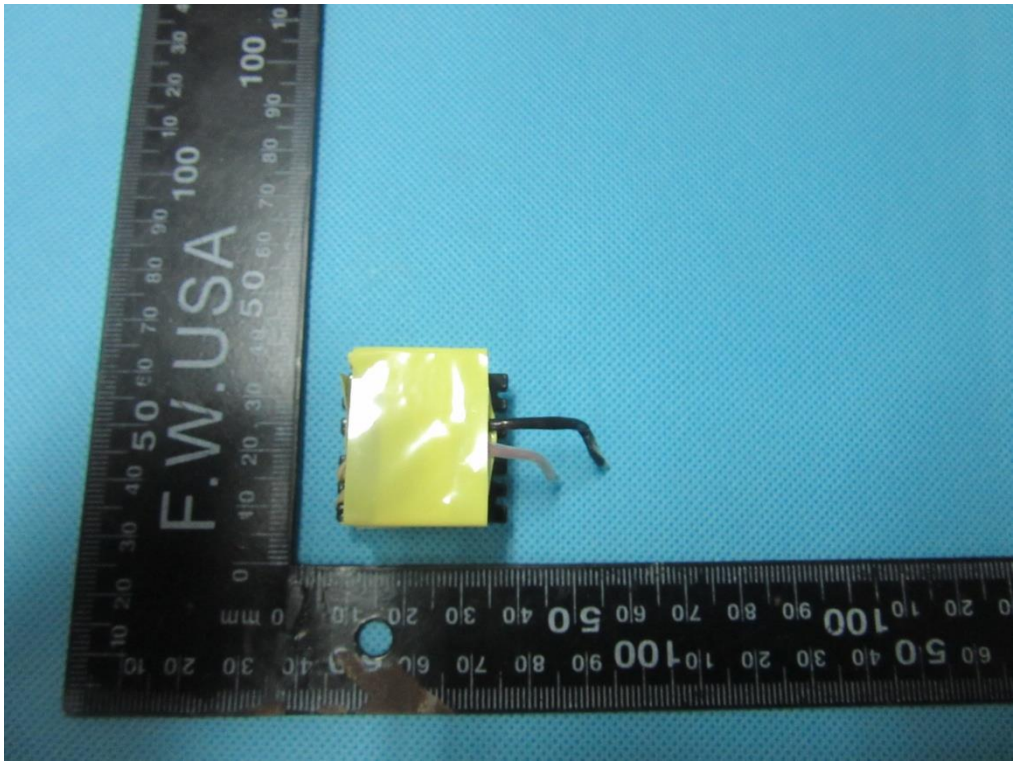


GT*96900P series, GT*961200P series PCB

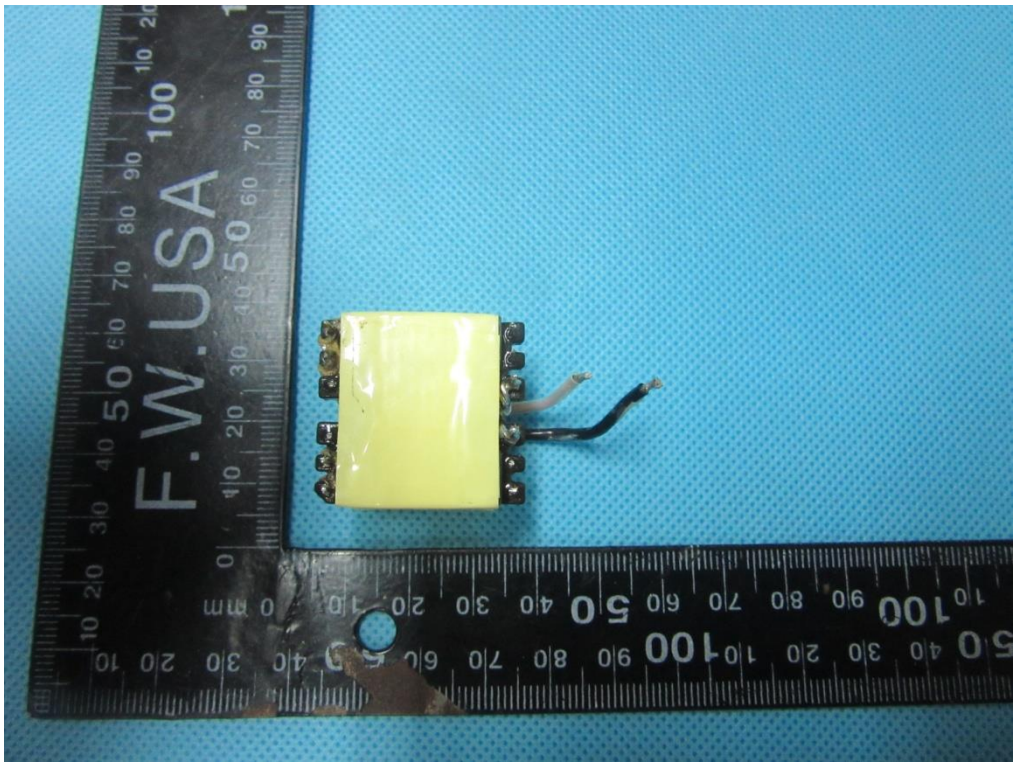


GT*96900P series, GT*961200P series PCB

GT*96900P series, GT*961200P series Transformer

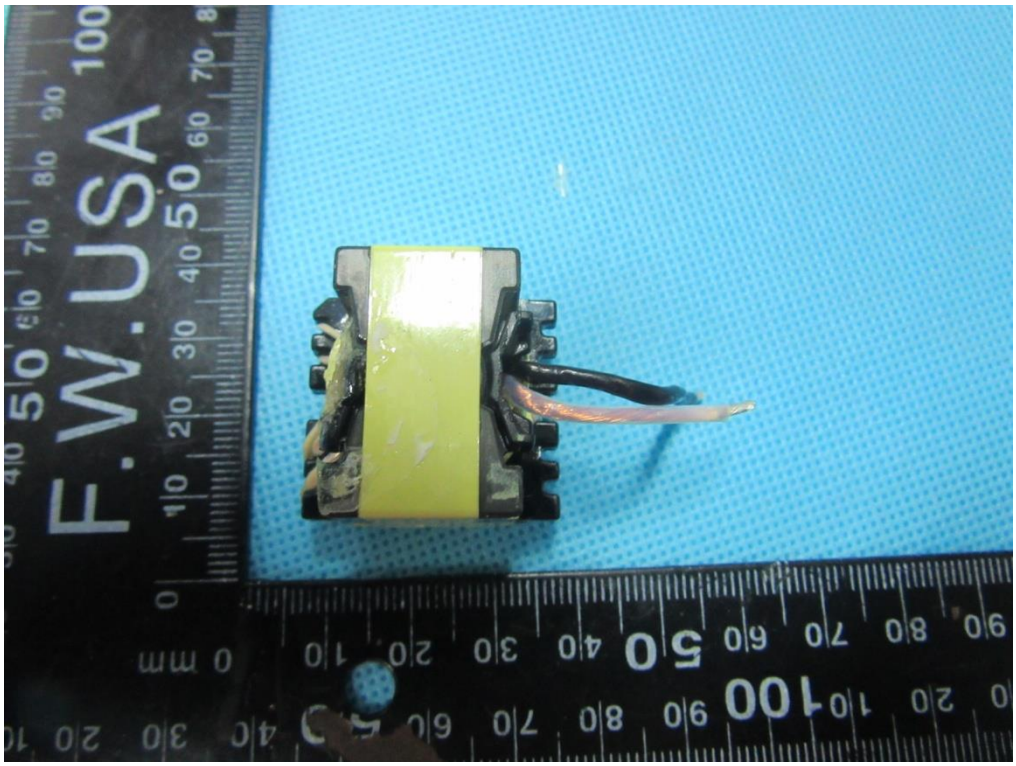


GT*96900P series, GT*961200P series Transformer

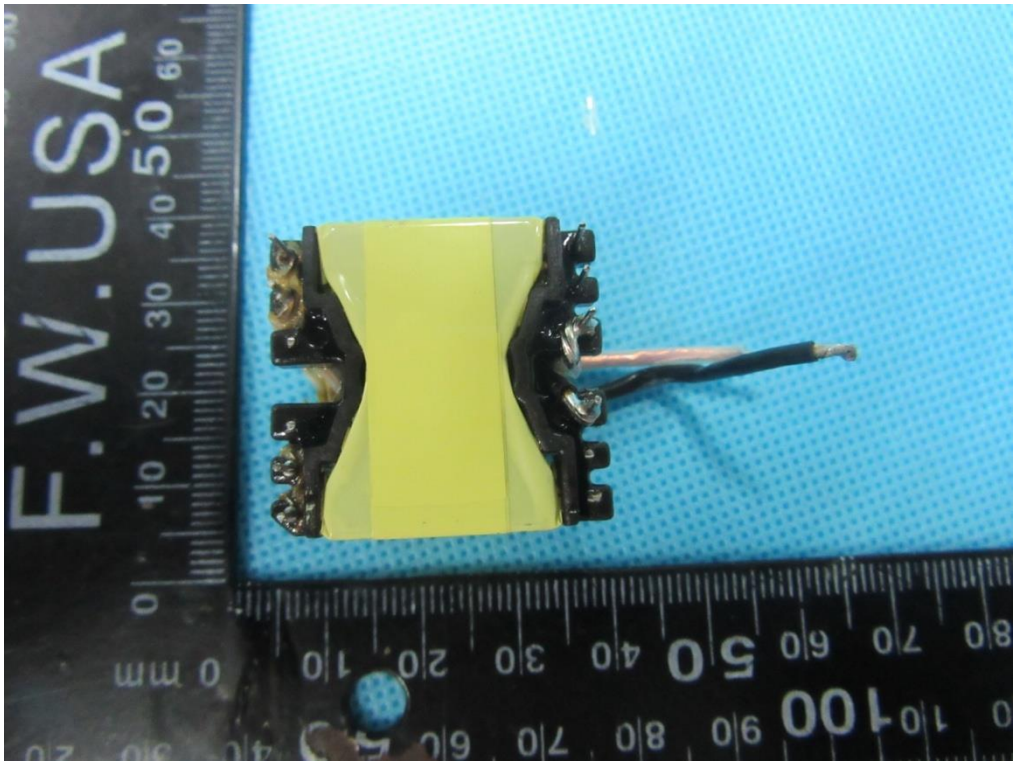


GT*96900P series, GT*961200P series Transformer

GT*96900P series, GT*961200P series Transformer

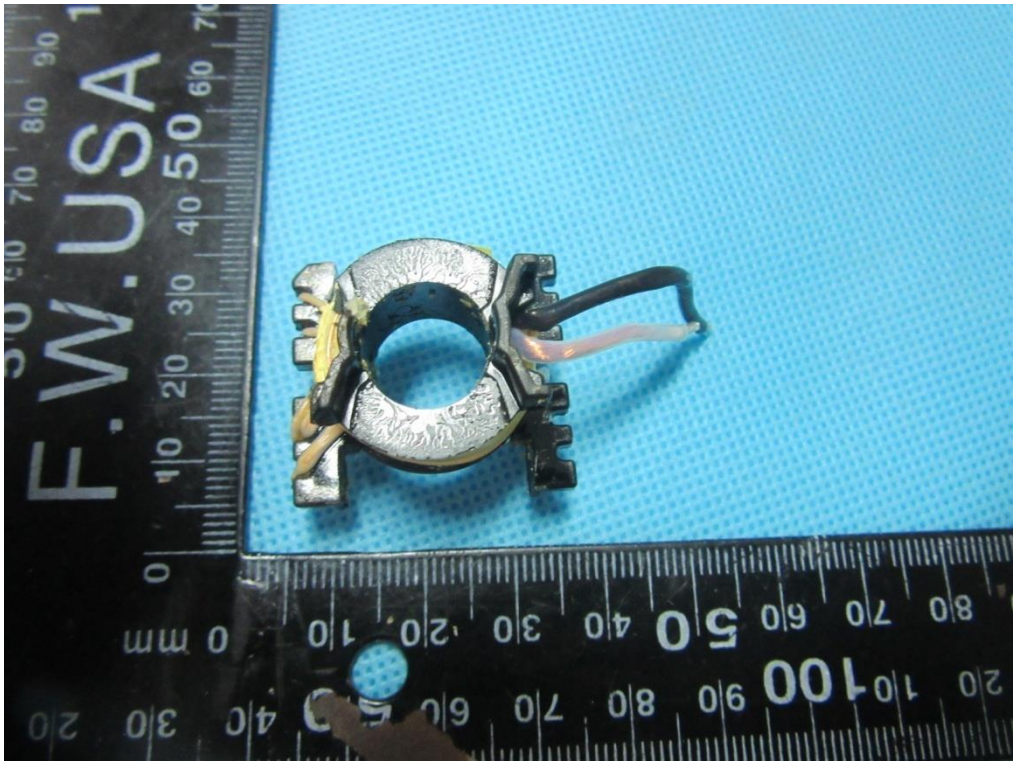


GT*96900P series, GT*961200P series Transformer

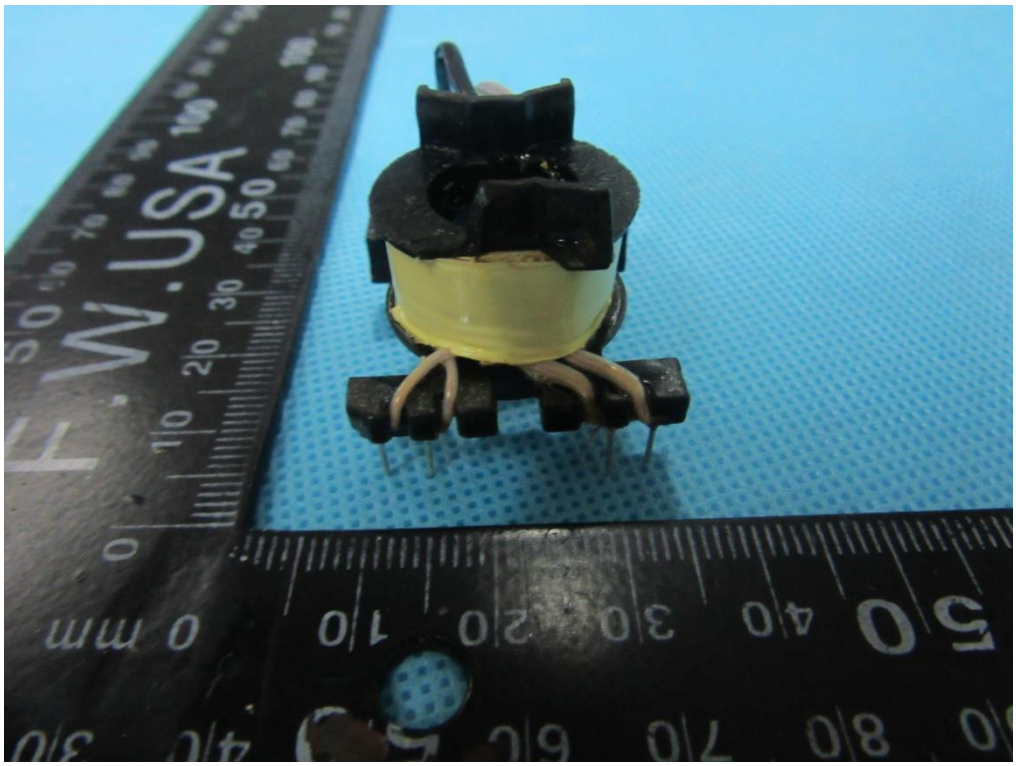


GT*96900P series, GT*961200P series Transformer

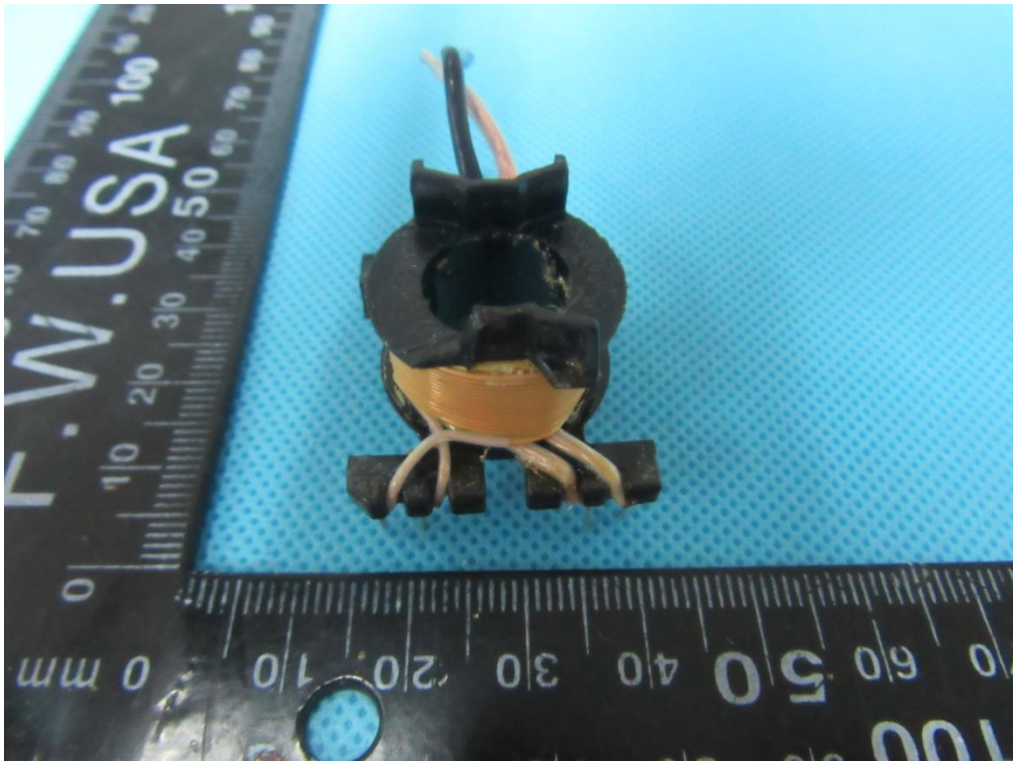
GT*96900P series, GT*961200P series Transformer



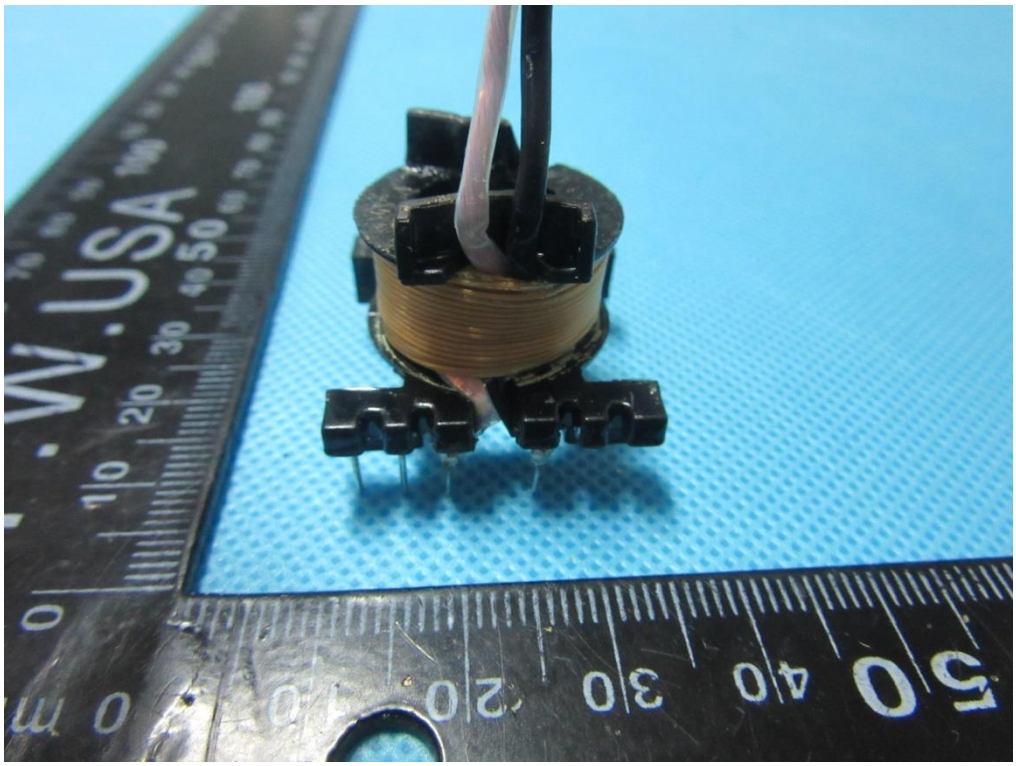
GT*96900P series, GT*961200P series Transformer



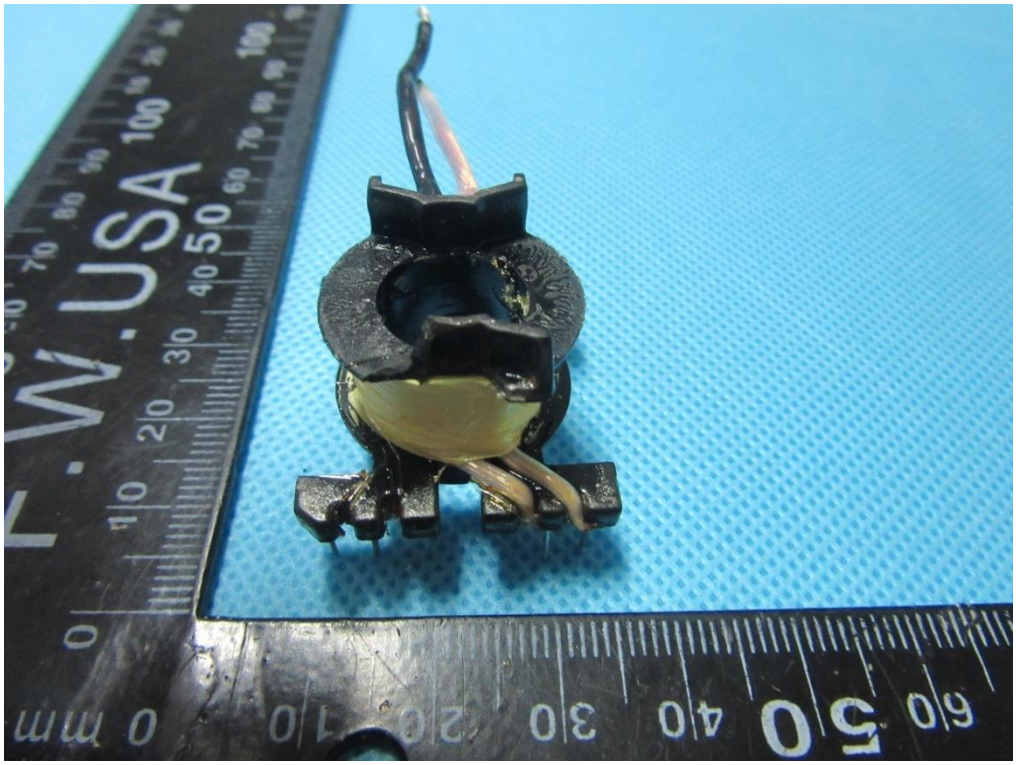
GT*96900P series, GT*961200P series Transformer



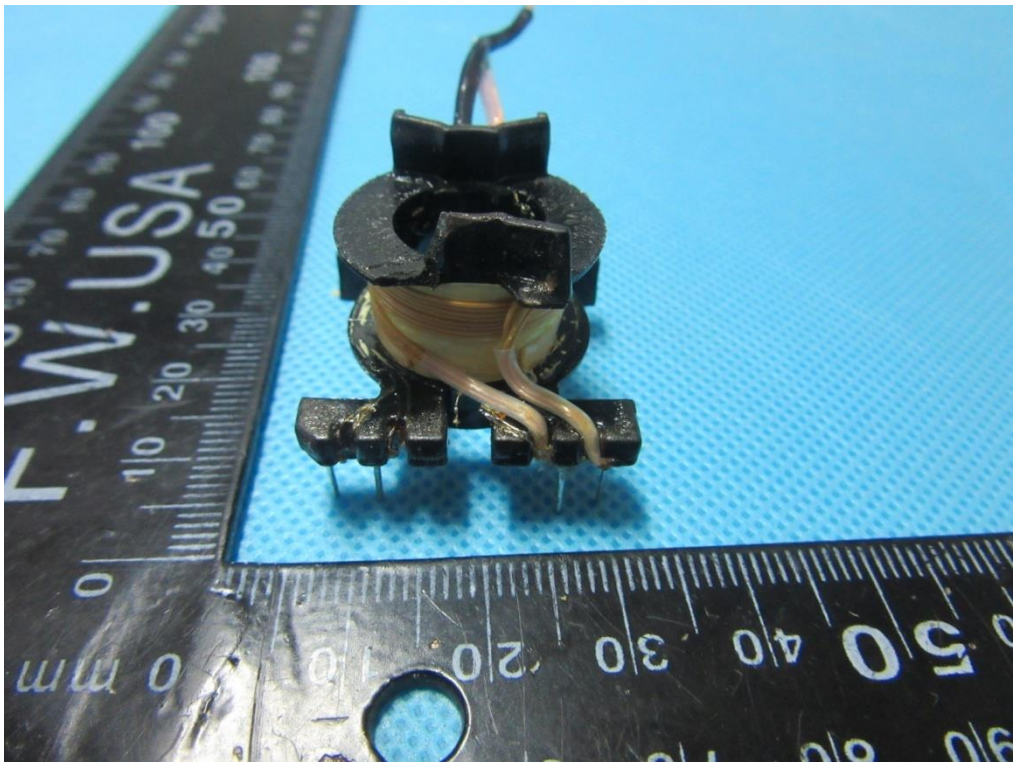
GT*96900P series, GT*961200P series Transformer



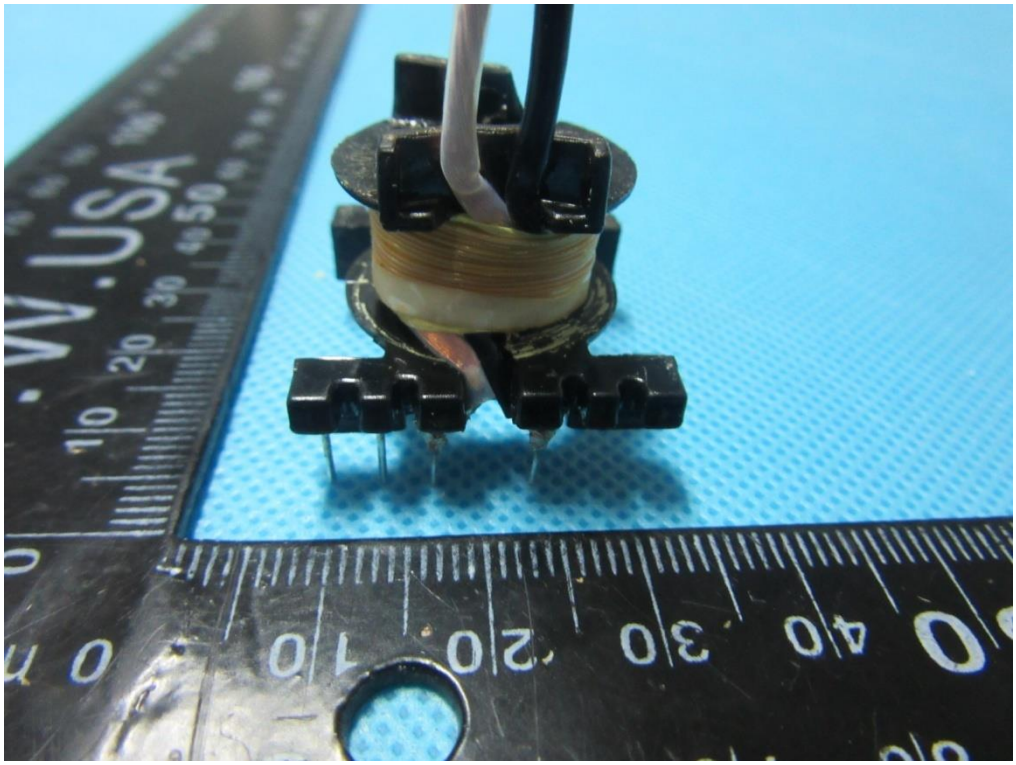
GT*96900P series, GT*961200P series Transformer



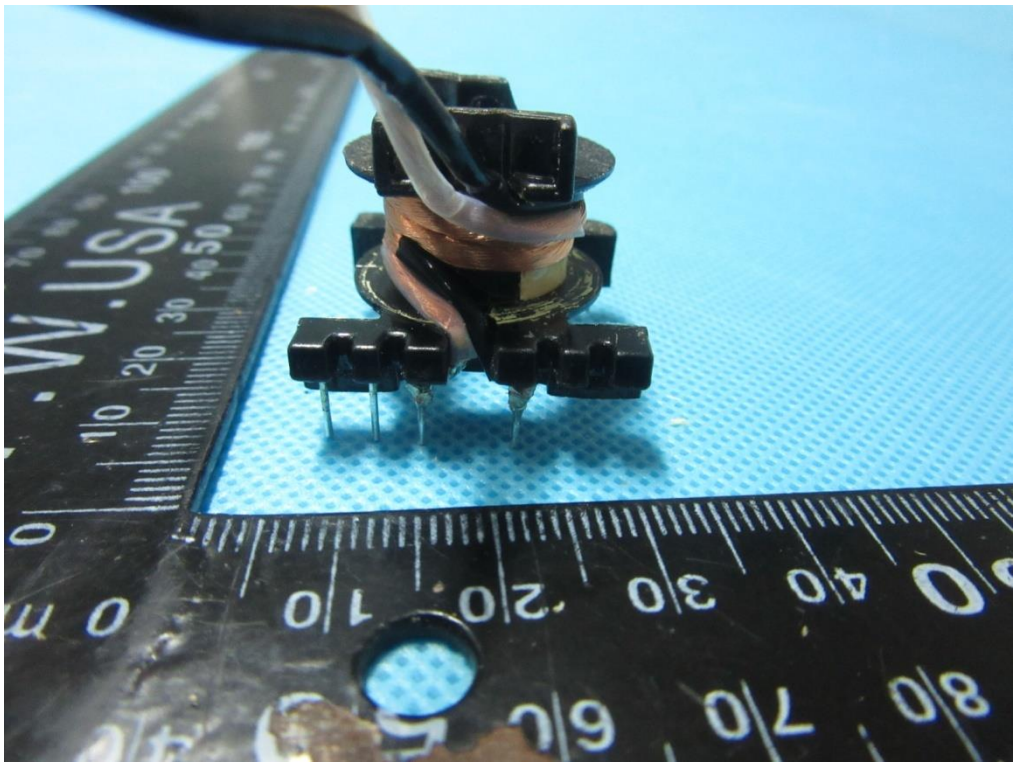
GT*96900P series, GT*961200P series Transformer



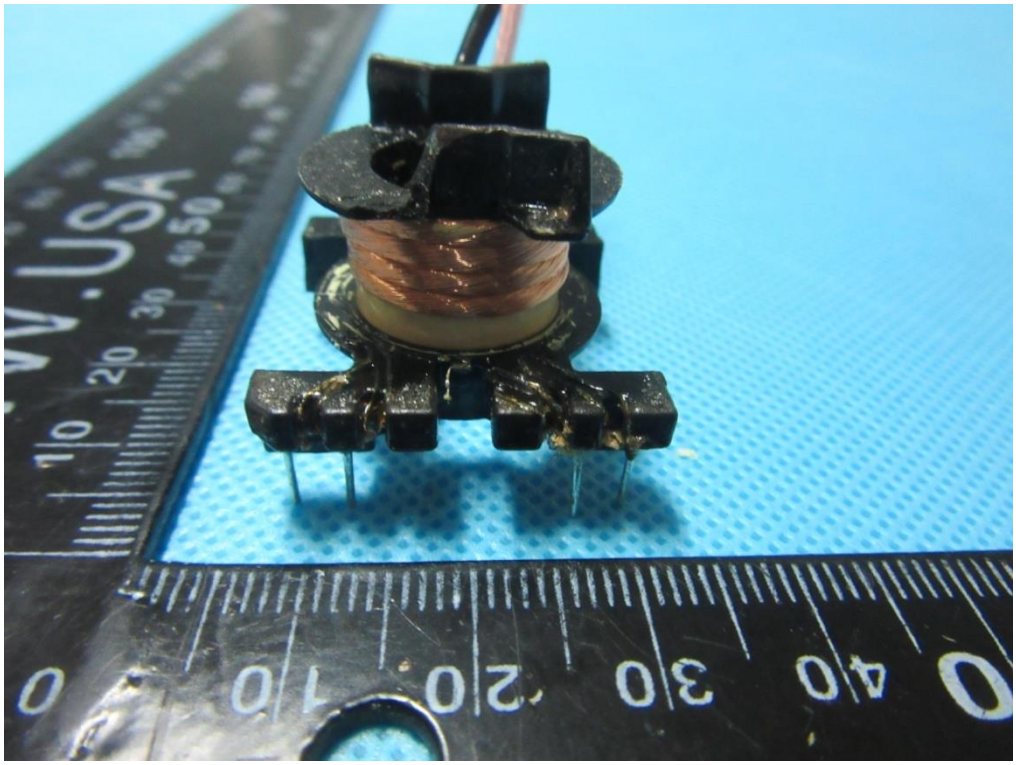
GT*96900P series, GT*961200P series Transformer



GT*96900P series, GT*961200P series Transformer



GT*96900P series, GT*961200P series Transformer



GT*96900P series, GT*961200P series Transformer

IEC 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict

Appendix 3: Additional requirements of IEC/EN60598-1 and IEC/EN60598-2-6

0	**GENERAL TEST REQUIREMENTS**		**N/A**
0.1	Information for luminaire design considered	Yes ☐ No ☒	—
0.3	More sections applicable .....:	Yes ☐ No ☒	—

2	**CLASSIFICATION**		**P**
2.2	Type of protection (Class 0 excluded)..... :	Class I for GT*961200P**T3*, GT*96900P**T3*, GT*961200P**T3TAB*, GT*96900P**T3TAB*, GT*961200P**T3A*, GT*96900P**T3A*, GT*961200P**TW3*, GT*96900P**TW3*, GT*961200P**TP3*, GT*96900P**TP3*, GT*961200P**P3* and GT*96900P**P3*; Class II for other models.	—
2.3	Degree of protection (Requirement: Ordinary)..... :	IP68 for GT*961200P**P2* GT*96900P**P2*, GT*961200P**P3* and GT*96900P**P3* IP20 for other models	—
2.4	Luminaire suitable for direct mounting on normally flammable surfaces ..... :	Yes ☒ No ☐	—
	Luminaire not suitable for direct mounting on normally flammable surfaces..... :	Yes ☐ No ☒	—
2.5	Luminaire for normal use ..... :	Yes ☒ No ☐	—
	Luminaire for rough service ..... :	Yes ☐ No ☒	—

3	**MARKING**		**P**
3.2	Mandatory markings		P
	Position of the marking	Enclosure	P
	Format of symbols/text		P
3.3	Additional information		N/A
	Language of instructions		N/A
3.3.1	Combination luminaires		N/A

IEC 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.2	Nominal frequency in Hz	50-60	P
3.3.3	Operating temperature		N/A
3.3.4	Symbol or warning notice		N/A
3.3.5	Wiring diagram		N/A
3.3.6	Special conditions		N/A
3.3.7	Metal halide lamp luminaire – warning		N/A
3.3.8	Limitation for semi-luminaires		N/A
3.3.9	Power factor and supply current		P
3.3.10	Suitability for use indoors		P
3.3.11	Luminaires with remote control		N/A
3.3.12	Clip-mounted luminaire – warning		N/A
3.3.13	Specifications of protective shields		N/A
3.3.14	Symbol for nature of supply		P
3.3.15	Rated current of socket outlet		N/A
3.3.16	Rough service luminaire		N/A
3.3.17	Mounting instruction for type Y, type Z and some type X attachments	(Component)	N/A
3.3.18	Non-ordinary luminaires with PVC cable		N/A
3.3.19	Protective conductor current in instruction if applicable		N/A
3.3.20	Provided with information if not intended to be mounted within arms reach		N/A
3.4	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
	Rated voltage	100-240V~	P
	Output voltage visible during lamp replacement		N/A
	Warning notice		P
	Marking on transformer or convertor		P
	Fuse-link rating		N/A

IEC 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**CONSTRUCTION**		**P**
4.2	Components replaceable without difficulty	No replaceable part	N/A
4.3	Wireways smooth and free from sharp edges		N/A
4.4	Lampholders		N/A
4.4.1	Integral lampholder		N/A
4.4.2	Wiring connection		N/A
4.4.3	Lampholder for end-to-end mounting		N/A
4.4.4	Positioning	No lamp holder	N/A
	- pressure test (N) ..... :		N/A
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N) ..... :		N/A
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
4.4.5	Peak pulse voltage		N/A
4.4.6	Centre contact		N/A
4.4.7	Parts in rough service luminaires resistant to tracking		N/A
4.4.8	Lamp connectors		N/A
4.4.9	Caps and bases correctly used		N/A
4.5	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
4.6	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
4.7	Terminals and supply connections		P
4.7.1	Contact to metal parts		N/A
4.7.2	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
4.7.3	Terminals for supply conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	Welded connections:		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
4.7.4	Terminals other than supply connection		P
4.7.5	Heat-resistant wiring/sleeves		N/A
4.7.6	Multi-pole plug		N/A
	- test at 30 N		N/A
4.8	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with 61058-1 for electronic switches		N/A
4.9	Insulating lining and sleeves		N/A
4.9.1	Retainement		N/A
	Method of fixing ..... :		N/A
4.9.2	Insulated linings and sleeves		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C) ..... :		N/A
4.10	Insulation of Class II luminaires		N/A
4.10.1	No contact, mounting surface – accessible metal parts – wiring of basic insulation	Not metal encased	N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
4.10.2	Assembly gaps:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- not coincidental	No assembly gaps	N/A
	- no straight access with test probe		N/A
4.10.3	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
4.11	Electrical connections		N/A
4.11.1	Contact pressure	No screws for electrical connections	N/A
4.11.2	Screws:		N/A
	- self-tapping screws	No such screws	N/A
	- thread-cutting screws		N/A
4.11.3	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
4.11.4	Material of current-carrying parts		P
4.11.5	No contact to wood or mounting surface		P
4.11.6	Electro-mechanical contact systems	No such system	N/A
4.12	Mechanical connections and glands		N/A
4.12.1	Screws not made of soft metal		N/A
	Screws of insulating material	No such screws	N/A
	Torque test: torque (Nm); part ..... :		N/A
	Torque test: torque (Nm); part ..... :		N/A
	Torque test: torque (Nm); part ..... :		N/A
4.12.2	Screws with diameter < 3 mm screwed into metal		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
4.13	Mechanical strength		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.13.1	Impact tests:		P
	- fragile parts; energy (Nm)..... :		N/A
	- other parts; energy (Nm) ..... :	0.35 Nm; enclosure	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		N/A
4.13.3	Straight test finger		P
4.13.4	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
4.13.6	Tumbling barrel		N/A
4.14	Suspensions and adjusting devices		N/A
4.14.1	Mechanical load:		N/A
	A) four times the weight		N/A
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)..... :		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) ..... :		N/A
	Metal rod. diameter (mm) ..... :		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
4.14.2	Load to flexible cables		N/A
	Mass (kg) ..... :		N/A
	Stress in conductors (N/mm²) ..... :		N/A
	Mass (kg) of semi-luminaire ..... :		N/A
	Bending moment (Nm) of semi-luminaire ..... :		N/A
4.14.3	Adjusting devices:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- flexing test; number of cycles ..... :		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
4.14.4	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
4.14.5	Guide pulleys		N/A
4.14.6	Strain on socket-outlets		N/A
4.15	Flammable materials:		P
	- glow-wire test 650 °C		P
	- spacing ≥ 30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
4.15.2	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
4.16	Luminaires for mounting on normally flammable surfaces		N/A
	No lamp control gear		N/A
4.16.1	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
4.16.2	Thermal protection:		N/A
	- in lamp control gear	No thermal protection	N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
4.16.3	Design to satisfy the test of 12.6	(see 12.6)	N/A
4.17	Drain holes		N/A
	Clearance at least 5 mm		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.18	Resistance to corrosion:		N/A
4.18.1	- rust-resistance		N/A
4.18.2	- season cracking in copper		N/A
4.18.3	- corrosion of aluminium		N/A
4.19	Ignitors compatible with ballast		N/A
4.20	Rough service vibration		N/A
4.21	Protective shield:		N/A
4.21.1	Shield fitted		N/A
	Shield of glass if tungsten halogen lamps		N/A
4.21.2	Particles from a shattering lamp not impair safety		N/A
4.21.3	No direct path		N/A
4.21.4	Impact test on shield		N/A
	Glow-wire test on lamp compartment		N/A
4.22	Attachments to lamps		N/A
4.23	Semi-luminaires comply Class II		N/A
4.24	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N/A
4.25	No sharp point or edges		P
4.26	Short-circuit protection:		N/A
4.26.1	Uninsulated accessible SELV parts		N/A
4.26.2	Short-circuit test		N/A
4.26.3	Test chain according to Figure 29		N/A
	Electrical safety output circuit		N/A

11	**CREEPAGE DISTANCES AND CLEARANCES**			**P**
	Working voltage (V) ..... :	240		—
	Voltage form	Sinusoidal ☒ Non-sinusoidal ☐		—
	PTI	< 600 ☒ ≥ 600 ☐		—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II ☒ Category III ☐		—
	Rated pulse voltage (kV) ..... :	N/A		—
	Measured circuit ..... :	Input	Output	

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Clause	Requirement + Test	Result - Remark		Verdict
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm) ..... :	L and N before fuse: Cl=Cr=3.6mm; Different pole of fuse: Cl=Cr=2.8mm	-	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm) ..... :	Cl=Cr=6.9mm	-	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm) ..... :	-	-	N/A
	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm)..... :	-	-	N/A
	(5) Not used			—
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm) ..... :	Cr=6.2mm Cl=6.2mm	-	P
	Between transformer windings: cr (mm); cl (mm). :	Cl=Cr=9.5mm		P

7	**PROVISION FOR EARTHING**		**P**
7.2.1 + 7.2.3	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a grove		N/A
	Earth makes contact first		N/A
7.2.2 + 7.2.3	Earth continuity in joints etc.		P
7.2.4	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
7.2.5	Earth terminal integral part of connector socket		N/A
7.2.6	Earth terminal adjacent to mains terminals		N/A
7.2.7	Electrolytic corrosion of the earth terminal		N/A
7.2.8	Material of earth terminal		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Contact surface bare metal		N/A
7.2.10	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
7.2.11	Earthing core coloured green-yellow		P
	Length of earth conductor	the current-carrying conductor becomes taut before the earthing conductor.	P
	Metal shell of lampholders		N/A
	Earthing of secondary circuit		N/A
	Current path during operation		N/A
14	**SCREW TERMINALS**		**N/A**
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 3)	N/A
15	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**		**N/A**
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 4)	N/A
5	**EXTERNAL AND INTERNAL WIRING**		**P**
5.2	Supply connection and external wiring		P
5.2.1	Means of connection..... :	Appliance inlet	P
5.2.2	Type of cable ..... :	No supply cord	N/A
	Nominal cross-sectional area (mm²)..... :		N/A
	Cables equal to IEC 60227 or IEC 60245		N/A
5.2.3	Type of attachment, X, Y or Z	No power cord	N/A
5.2.5	Type Z not connected to screws		N/A
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	No bushing	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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:		N/A
	- covering protected from abrasion	No cord	N/A
	- clear how to be effective		N/A
	- no mechanical or thermal stress		N/A
	- no tying of cables into knots etc.		N/A
	- insulating material or lining		N/A
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		N/A
5.2.10.3	Tests:		N/A
	- impossible to push cable; unsafe		N/A
	- pull test: 25 times; pull (N) ..... :		N/A
	- torque test: torque (Nm) ..... :		N/A
	- displacement ≤ 2 mm		N/A
	- no movement of conductors		N/A
	- no damage of cable or cord		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Wire ends tinned: no cold flow		N/A
5.2.14	Mains plug same protection		N/A
	Class II luminaire plug		N/A
5.2.16	Appliance inlets (IEC 60320)		P
	Appliance couplers of class II type		P
5.2.17	No standardized interconnecting cables properly assembled		N/A
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 ..... :		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.		N/A
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	No twisting over 360°		N/A
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
5.3.7	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
8	**PROTECTION AGAINST ELECTRIC SHOCK**		**P**
8.2.1	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable and adjustable luminaires		P
	Basic insulated parts not accessible with Ø 50 mm probe from outside, within arms reach, on wall-mounted luminaires		N/A
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		P
	Double-ended high pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
8.2.2	Portable luminaire adjusted in most unfavourable position		N/A
8.2.3.a	Class II luminaire:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- basic insulated metal parts not accessible during starter or lamp replacement		P
	- basic insulation not accessible other than during starter or lamp replacement		P
	- glass protective shields not used as supplementary insulation		N/A
8.2.3.b	BC lampholder of metal in class I luminaires shall be earthed		N/A
8.2.3.c	Class III luminaires with exposed SELV parts:		N/A
	Ordinary luminaire:		N/A
	- touch current ..... :		N/A
	- no-load voltage ..... :		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage ..... :		N/A
8.2.4	Portable luminaire:		N/A
	- protection independent of supporting surface		N/A
	- terminal block completely covered		N/A
8.2.5	Compliance with the standard test finger or relevant probe		P
8.2.6	Covers reliably secured		P
8.2.7	Discharging of capacitors ≥ 0,5 μF		N/A
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A

12	**ENDURANCE TEST AND THERMAL TEST**		**P**
12.3	Endurance test:		P
	- test voltage 1,1 Un (V)..... :	1.1 x 240V = 264V 1.1 x 100V = 110V	—
12.3	- mounting-position ..... :	Normal position	—
	- test temperature (°C) ..... :	50°C for GTM961200P12054-T2, GTM961200P11012-T2; 60°C for GTM96900P9054-T2 and GTM96900P9012-T3	—

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Clause	Requirement + Test	Result - Remark	Verdict
	- total duration (h) ..... :	168	—
	- supply voltage: Un factor; calculated voltage (V):	110/264	—
	- lamp used ..... :	Dummy LED	—
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 1)	P
	- test voltage 1,06 Un (V)..... :	1.06 x 240V=254.4V 0.94 x 100V=94V	—
12.5	Thermal test (abnormal operation)	(see Annex 1)	P
12.6	Thermal test (failed lamp control gear condition):		N/A
12.6.1	Through wiring or looping-in wiring loaded by a current of (A) ..... :	4.16.1 and 4.16.2 are not applicable	—
	- case of abnormal conditions..... :		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un :		—
	- measured mounting surface temperature (°C) at 1,1 Un ..... :		N/A
	- calculated mounting surface temperature (°C) . :		N/A
	- track-mounted luminaires		N/A
12.6.2	Temperature sensing control		N/A
	- case of abnormal conditions..... :		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C)... :		N/A
	- track-mounted luminaires		N/A
12.7	Thermal test (failed lamp control gear in plastic luminaires):		N/A
12.7.1	Luminaire without temperature sensing control		N/A
12.7.1.1	Luminaire with fluorescent lamp ≤ 70W		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test method 12.7.1.1 or Annex V ..... :		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V) ..... :		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex V:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un.. :		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un..... :		—
	- calculated temperature of fixing point/exposed part (°C) ..... :		—
	Ball-pressure test:		N/A
	- part tested; temperature (°C)..... :		N/A
	- part tested; temperature (°C)..... :		N/A
12.7.1.2	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un.. :		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un..... :		—
	- calculated temperature of fixing point/exposed part (°C) ..... :		—
	Ball-pressure test:		N/A
	- part tested; temperature (°C)..... :		N/A
	- part tested; temperature (°C)..... :		N/A
12.7.1.3	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
12.7.2	Luminaire with temperature sensing control		N/A
	- thermal link	Yes ☐ No ☐	—

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Clause	Requirement + Test	Result - Remark	Verdict
	- manual reset cut-out	Yes ☐ No ☐	—
	- auto reset cut-out	Yes ☐ No ☐	—
	- case of abnormal conditions		—
	- highest measured temperature of fixing point/exposed part (°C):..... :		—
	Ball-pressure test:		N/A
	- part tested; temperature (°C)..... :		N/A
	- part tested; temperature (°C)..... :		N/A

9	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		**P**
9.2	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP ..... :	IP68 for GT*961200P**P2* GT*96900P**P2*, GT*961200P**P3* and GT*96900P**P3* IP20 for other models	—
	- mounting position during test ..... :	Normal position in thermal enclosure, 1m under water surface	—
	- fixing screws tightened; torque (Nm)..... :	0.33Nm	—
	- tests according to clauses ..... :	8 &11	—
	- electric strength test afterwards	(see 10.2.2)	P
	a) no deposit in dust-proof luminaire		P
	b) no talcum in dust-tight luminaire		P
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		P
	d) i) For luminaires without drain holes – no water entry		P
	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
9.3	Humidity test 48 h	25 °C; 93 %	P
10	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		**P**
10.2.1	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø ..... :		—
	Insulation resistance (MΩ)		—
	SELV:		N/A
	- between current-carrying parts of different polarity ..... :		N/A
	- between current-carrying parts and mounting surface ..... :		N/A
	- between current-carrying parts and metal parts of the luminaire ..... :		N/A
	Other than SELV:		N/A
	- between live parts of different polarity..... :		N/A
	- between live parts and mounting surface..... :		N/A
	- between live parts and metal parts..... :		N/A
	- between live parts of different polarity through action of a switch ..... :		N/A
10.2.2	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V):		N/A
	SELV:		N/A
	- between current-carrying parts of different polarity ..... :		N/A
	- between current-carrying parts and mounting surface ..... :		N/A
	- between current-carrying parts and metal parts of the luminaire ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Other than SELV:		P
	- between live parts of different polarity..... :	1500V	P
	- between live parts and mounting surface..... :	3000V	P
	- between live parts and metal parts..... :		N/A
	- between live parts of different polarity through action of a switch ..... :		N/A
10.3	Touch current (mA)..... :	Max. 0.075mA peak For GTM961200P12054-T2	P

13	**RESISTANCE TO HEAT, FIRE AND TRACKING**		**P**
13.2.1	Ball-pressure test:		P
	- part tested; temperature (°C)..... :	Refer to clause 19 of IEC 61347-2-13	P
	- part tested; temperature (°C)..... :		P
13.3.1	Needle flame test (10 s):		P
	- part tested..... :	Refer to clause 19 of IEC 61347-2-13	P
	- part tested..... :		P
13.3.2	Glow-wire test (650°C):		P
	- part tested..... :	Refer to clause 19 of IEC 61347-2-13	P
	- part tested..... :		P
13.4.1	Tracking test: part tested ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	components	P

object/part No.	code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Refer to page 47 to page 59						

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 1: temperature measurements, thermal tests of Section 12	P

	Type reference ..... :	GTM961200P12054-T2 GTM961200P11012-T2 GTM96900P9012-T3 GTM96900P9054-T2	—
	Lamp used..... :	Dummy LED	—
	Lamp control gear used..... :	GTM961200P12054-T2 GTM961200P11012-T2 GTM96900P9012-T3 GTM96900P9054-T2	—
	Mounting position of luminaire ..... :	Normal position	—
	Supply wattage (W) ..... :	GTM961200P12054-T2: 254.4V supply: 132.1W 94V supply: 135.4W GTM961200P11012-T2: 254.4V supply: 136.7W 94V supply: 140.2W GTM96900P9012-T3 254.4V supply: 102.4W 94V supply: 104.2W GTM96900P9054-T2 254.4V supply: 97.4W 94V supply: 99.9W	—
	Supply current (A) ..... :	GTM961200P12054-T2: 254.4V supply: 542mA 94V supply: 1294mA GTM961200P11012-T2: 254.4V supply: 566mA 94V supply: 1339mA GTM96900P9012-T3 254.4V supply: 426mA 94V supply: 1001mA GTM96900P9054-T2 254.4V supply: 419mA 94V supply: 1002mA	—
	Calculated power factor..... :	N/A	—

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Clause	Requirement + Test	Result - Remark	Verdict

	Table: measured temperatures corrected for ta = 40 °C / 50 °C:		P
	- abnormal operating mode :	Output short circuit	—
	- test 1: rated voltage :	N/A	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage :	1.06 x 240 V = 254.4 V 0.94 x 100 V = 94V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage :	N/A	—
	- test 4: 0,9 times rated voltage or 1,1 times rated wattage :	0.9x 100 V = 90 V 1.1 x 240 V = 264 V The unit shut off when the output circuit was shorted	—
	Through wiring or looping-in wiring loaded by a current of A during the test :	N/A	—

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Clause	Requirement + Test	Result - Remark	Verdict

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Tc	--	--	--	--	--	--
Transformer winding	--	104 / 89	--	110	107 / 91	175
Transformer core	--	101 / 78	--	For ref.	104 / 79	--
External enclosure	--	72 / 69	--	75	74 / 70	75
Internal enclosure	--	85 / 78	--	For ref.	88 / 79	--
Table support	--	72 / 69	--	75	74 / 70	75
PCB	--	104 / 77	--	130	107 / 83	130
Optocoupler	--	99 / 88	--	110	102 / 89	110
Appliance inlet	--	71 / 59	--	For ref.	74 / 59	--
Internal output wire	--	73 / 69	--	80	76 / 71	80
Y capacitor	--	91 / 81	--	125	93 / 82	125
X capacitor	--	93 / 72	--	100	96 / 73	100
Varistor	--	74 / 61	--	85	76 / 62	85
Ambient	--	40 / 40	--	--	40 / 40	--
Note: Model GTM961200P12054-T2. Figures shown in test 2 before and after "/" are in the order of "94V/254.4V". Figures shown in test 4 before and after "/" are in the order of "90V/264V".						

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Tc	--	--	--	--	--	--
Transformer winding	--	106 / 100	--	110	123 / 106	175
Transformer core	--	95 / 87	--	For ref.	102 / 90	--
External enclosure	--	72 / 71	--	75	74 / 72	75
Internal enclosure	--	80 / 80	--	For ref.	83 / 80	--
Table support	--	72 / 71	--	75	74 / 72	75
PCB	--	86 / 76	--	130	102 / 77	130
Optocoupler	--	100 / 95	--	110	106 / 98	110
Appliance inlet		70 / 62	--	For ref.	78 / 65	--
Internal output wire		74 / 73	--	80	78 / 77	80
Y capacitor	--	87 / 82		125	102 / 85	125

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Clause	Requirement + Test	Result - Remark	Verdict

X capacitor		91 / 81		100	97 / 79	100
Varistor	--	74 / 70	--	85	78 / 75	85
Ambient	--	40 / 40	--	--	40 / 40	--
Note: Model GTM961200P11012-T2. Figures shown in test 2 before and after "/" are in the order of "94V/254.4V". Figures shown in test 4 before and after "/" are in the order of "90V/264V".						

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Tc	--	--	--	--	--	--
Transformer winding	--	108 / 98	--	110	118 / 99	175
Transformer core	--	107 / 92	--	For ref.	111 / 93	--
External enclosure	--	68 / 66	--	75	73 / 71	75
Internal enclosure	--	76 / 74	--	For ref.	81 / 79	--
Table support	--	68 / 66	--	75	73 / 71	75
PCB	--	104 / 82	--	130	108 / 83	130
Optocoupler	--	104 / 91	--	110	108 / 92	110
Appliance inlet		73 / 66	--	For ref.	74 / 67	--
Internal output wire		78 / 79	--	80	78 / 79	80
Y capacitor	--	103 / 83		125	104 / 85	125
X capacitor		98 / 82		100	99 / 81	100
Varistor	--	79 / 79	--	85	82 / 81	85
Ambient	--	50 / 50	--	--	50 / 50	--
Note: Model GTM96900P9054-T2. Figures shown in test 2 before and after "/" are in the order of "94V/254.4V". Figures shown in test 4 before and after "/" are in the order of "90V/264V".						

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Tc	--	--	--	--	--	--
Transformer winding	--	108 / 101	--	110	112 / 103	175
Transformer core	--	105 / 97	--	For ref.	109 / 99	--
External enclosure	--	69 / 67	--	75	73 / 72	75
Internal enclosure	--	77 / 75	--	For ref.	82 / 80	--
Table support	--	69 / 67	--	75	73 / 72	75

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Clause	Requirement + Test	Result - Remark	Verdict

PCB	--	101 / 95	--	130	105 / 98	130
Optocoupler	--	105 / 99	--	110	109 / 101	110
Internal input wire		77 / 69	--	80	79 / 70	80
Internal output wire		79 / 78	--	80	79 / 78	80
Y capacitor	--	94 / 87		125	97 / 89	125
X capacitor		90 / 79		100	109 / 101	100
Varistor	--	80 / 79	--	85	83 / 82	85
Ambient	--	50 / 50	--	--	50 / 50	--
Note: Model GTM96900P9012-T3. Figures shown in test 2 before and after “/” are in the order of “94V/254.4V”. Figures shown in test 4 before and after “/” are in the order of “90V/264V”.						

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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).....:		N/A
14.3.3	Conductor space (mm).....:		N/A
14.4	Mechanical tests		N/A
14.4.1	Minimum distance		N/A
14.4.2	Cannot slip out		N/A
14.4.3	Special preparation		N/A
14.4.4	Nominal diameter of thread (metric ISO thread) ..:		N/A
	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
15.5.1	Terminals internal wiring		N/A
15.5.1.1	Pull test spring-type terminals (4 N, 4 samples)….:		N/A
15.5.1.2	Pull test pin or tab terminals (4 N, 4 samples)……:		N/A
	Insertion force not exceeding 50 N		N/A
15.5.2	Permanent connections: pull-off test (20 N)		N/A
15.6	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples).....:		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles.....:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples) .....:		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples) .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

15.7	Terminals external wiring									N/A
	Terminal size and rating									N/A
15.8.1	Pull test spring-type terminals or welded connections (4 samples); pull (N) .....:									N/A
	Pull test pin or tab terminals (4 samples); pull (N) .....:									N/A
15.9	Contact resistance test									
	Voltage drop (mV) after 1 h									N/A
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop of two inseparable joints									
	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)										

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Clause	Requirement + Test	Result - Remark	Verdict

	CENELEC COMMON MODIFICATIONS (EN)		**N/A**
3	**MARKING**		N/A
3.3.101	Adequate warning on the package		N/A
5	**EXTERNAL AND INTERNAL WIRING**		N/A
5.2.1	Connecting leads		N/A
	- without a means for connection to the supply		N/A
	- terminal block specified		N/A
	- relevant information provided		N/A
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1		N/A
5.2.2	Cables equal to HD21 S2 or HD22 S2		N/A

ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		**N/A**
3.3	DK: power supply cord with label		N/A
	IT: warning label on Class 0 luminaire		N/A
4.5.1	DK: socket-outlets		N/A
5.2.1	CY, DK, FI, SE, GB: type of plug		N/A

ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		**N/A**
4 & 5	FR: Shuttered socket-outlets 10/16A		N/A
13.3	GB: Requirements according to United Kingdom Building Regulation		N/A
13.3.2	FR: Glow-wire test 850°C alt. 750°C for luminaires in premises open to public or 960°C for luminaires in emergency exits		N/A