Test Report issued under the responsibility of:

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

Report Number. ..... :	AOC251124001S
Date of issue ..... :	2025-12-08
Total number of pages ..... :	116 pages
Name of Testing Laboratory preparing the Report ..... :	Shenzhen AOCE Electronic Technology Service Co., Ltd Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Applicant's name ..... :	Zhongshan City Shuorong Lighting Technology Co., Ltd.
Address ..... :	One of the fifth floor, No. 173, Zhuyuan Road, Xiaolan Town Zhongshan City, 528415 Guangdong, P.R. China
Test specification:	
Standard ..... :	☒ IEC 61347-2-13:2014+AMD1:2016 used in conjunction with IEC 61347-1:2015+AMD1:2017 ☒ Australia National Differences
Test procedure ..... :	Type testing
Non-standard test method ..... :	N/A
TRF template used ..... :	IECEE OD-2020-F1:2022, Ed.1.5
Test Report Form No. ..... :	IEC61347_2_13G
Test Report Form(s) Originator .... :	Intertek Semko AB
Master TRF ..... :	Dated 2023-09-27

General disclaimer:

The test results presented in this report relate only to the object tested.
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Test item description.....:	LED Driver
Trademark(s).....:	SORONTEK®
Manufacturer.....:	Zhongshan City Shuorong Lighting Technology Co., Ltd. One of the fifth floor, No. 173, Zhuyuan Road, Xiaolan Town Zhongshan City, 528415 Guangdong, P.R. China
Model/Type reference.....:	See model list
Ratings.....:	110-240 V~, 50/60 Hz, Built-in, constant current, SELV, IP20, ta: 45 °C, tc: 80 °C， more detail information see model list

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

☒	**Testing Laboratory:**	Shenzhen AOCE Electronic Technology Service Co., Ltd	
Testing location/ address .....:		Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China	
Tested by (name, function, signature).....:		Zhicong Xian Technical Engineer	ZhiCong Xian
Approved by (name, function, signature) ..:		Robin Liu Technical Manager	Robin Liu
☐	**Testing procedure: CTF Stage 1:**	N/A	
Testing location/ address .....:			
Tested by (name, function, signature).....:			
Approved by (name, function, signature) ..:			
☐	**Testing procedure: CTF Stage 2:**	N/A	
Testing location/ address .....:			
Tested by (name + signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature) ..:			
☐	**Testing procedure: CTF Stage 3:**	N/A	
☐	**Testing procedure: CTF Stage 4:**	N/A	
Testing location/ address .....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature) ..:			
Supervised by (name, function, signature) :			

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

Attachment No.1: AUSTRALIA NATIONAL DIFFERENCES.
Attachment No.2: AS/NZS 60598.1.
Attachment No.3: Photo document.

Summary of testing:

Tests performed (name of test, test clause and date test performed):	**Testing location: (CBTL, SPTL, CTF, Subcontractor)**
All tests were performed on model SR-WP-20W580, SR-WP-10W280, SR-WP-6W230	Shenzhen AOCE Electronic Technology Service Co., Ltd Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China

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

Australia National Differences

☒ The product fulfils the requirements of AS/NZS 61347.1:2016+A1:2018 & AS 61347.2.13:2018

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other: … (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

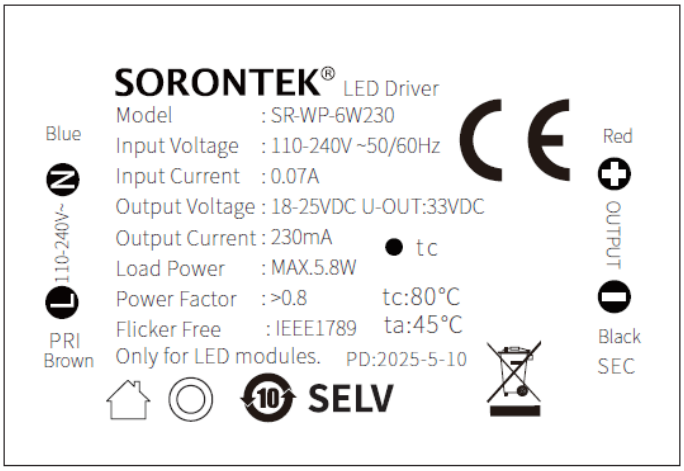
The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

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.



Test item particulars..... :	
Classification of installation and use..... :	Independent, IP 20, Indoor used only
Supply Connection ..... :	Connecting leads
..... :	
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 .....:	2025-11-06
Date (s) of performance of tests .....:	2025-11-06 to 2025-12-08

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.

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) .....:	Zhongshan City Shuorong Lighting Technology Co., Ltd. One of the fifth floor, No. 173, Zhuyuan Road, Xiaolan Town Zhongshan City, 528415 Guangdong, P.R. China

General product information and other remarks:

1. *Built-in controlgear, SELV, constant current output, class II structure, IP 20, indoor use only.*
2. *According circuit diagram, all models divided A, B and C three series,*
3. *The same series are exactly the same except the differences in rated parameters and secondary components*
4. *Each series selects the maximum power for full testing, that represents the most unfavorable condition.*
5. *LED driver not suitable for covering with thermal insulation material.*
6. *All models no load voltage not exceeding 60 VDC.*

No.	Model No.	Input		Output			Power (W)	ta / tc (℃)	Transformer	Circuit diagram & PCB layout	Size (mm)
		Voltage (V, Hz)	Current (mA)	Voltage (VDC)	Current (mA)	No load voltage (Max. VDC)					
1.	SR-WP-3W260	110-240 V~, 50/60 Hz	30	6-10	260	20	2.6	45 / 80	EE13	A	58*28.5*22
2.	SR-WP-3W600		30	2.7-3.3	600	13	2				
3.	SR-WP-4W500		40	3.3-6.5	500	13	3.3				
4.	SR-WP-4W150		45	18-25	150	42	3.8				
5.	SR-WP-5W250		55	10-17	250	30	4.3				
6.	SR-WP-4W135		40	18-25	135	42	3.4				
7.	SR-WP-5W120		55	30-37	120	48	4.4				
8.	SR-WP-6W135		65	30-37	135	55	5				
9.	**SR-WP-6W230**		**70**	**18-25**	**230**	**33**	**5.8**				
10.	SR-WP-6W260		65	15-20	260	33	5.2				
11.	SR-WP-9W260	110-240 V~, 50/60 Hz	90	24-33	260	48	8.6	45 / 80	EE1610	B	65.5*36.5*23.5
12.	**SR-WP-10W280**		**110**	**24-33**	**280**	**48**	**9.3**				
13.	SR-WP-10W560		110	10-16	560	30	9				
14.	SR-WP-12W280	110-240 V~, 50/60 Hz	120	30-37	280	60	10.4	45 / 80	EE1910	C	71*44*25
15.	SR-WP-15W350		140	30-37	350	60	13				
16.	SR-WP-16W380		150	30-37	380	60	14				
17.	**SR-WP-20W580**		**200**	**24-33**	**580**	**50**	**19.2**				
18.	SR-WP-20W480		190	30-37	480	60	17.8				

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
4 (4)	**GENERAL REQUIREMENTS**		-
- (4)	Insulation materials for double or reinforced insulation according to requirements in Annex N of IEC 61347-1	(See Annex N)	P
- (4)	Compliance of independent control gear enclosure with IEC 60 598-1		N/A
- (4)	Built-in magnetic ballast with double or reinforced insulation complies with Annex I of IEC 61347-1		N/A
- (4)	Built-in electronic control gear with double or reinforced insulation complies with Annex O of IEC 61347-1	(See Annex O)	P
- (4)	SELV control gear complies with Annex L of IEC 61347-1	(See Annex L)	P
4 (-)	Transformer comply with IEC 61558		P
	Dielectric strength test of insulated winding wires is limited to 3 kV if input voltage ≤ 300 V		P
6 (6)	**CLASSIFICATION**		-
	Built-in control gear ..... :	Yes ☒ No ☐	—
	Independent control gear..... :	Yes ☐ No ☐	—
	Integral control gear ..... :	Yes ☐ No ☒	—
6 (-)	Auto-wound control gear ..... :	Yes ☐ No ☒	—
	Separating control gear ..... :	Yes ☐ No ☒	—
	Isolating control gear ..... :	Yes ☐ No ☒	—
	SELV control gear ..... :	Yes ☒ No ☐	—
7	**MARKING**		-
7.1 (7.1)	**Mandatory markings**		P
	a) mark of origin		P
	b) model number or type reference	See copy of marking plate	P
	c) symbol for independent control gear, if applicable		N/A
	d) correlation between interchangeable parts and control gear marked		N/A
	e) rated supply voltage (V)	110-240	P
	supply frequency (Hz)	50/60	P
	supply current (A)		P

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Clause	Requirement + Test	Result - Remark	Verdict
	f) earthing symbol		N/A
	k) wiring diagram		P
	l) value of tc (°C)	tc: 80	P
	m) symbol for declared temperature		N/A
	t) LUM earthing symbol		N/A
	u) if not SELV maximum working voltage U_{out} between:		N/A
	- output terminals (V) ..... :		N/A
	- output terminals and earth (V) ..... :		N/A
7.1 (-)	Constant voltage type:	Yes ☐ No ☒	P
	- rated output power P_{rated} (W) ..... :		N/A
	- rated output voltage U_{rated} (V) ..... :		N/A
	Constant current type:	Yes ☒ No ☐	N/A
	- rated output power P_{rated} (W) ..... :	See copy of marking plate	P
	- rated output current I_{rated} (A) ..... :	See copy of marking plate	P
	Indication if for LED modules only		P
7.1 (7.2)	Marking durable and legible		P
	Rubbing 15 s water, 15 s petroleum; marking legible		P
7.2 (7.1)	**Information to be provided, if applicable**		P
	h) declaration of protection against accidental contact		N/A
	i) cross-section of conductors (mm²)		N/A
	j) number, type and wattage of lamp(s)		N/A
	s) SELV symbol		P
7.2 (-)	- declaration of mains connected windings		N/A

8 (10)	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		-
- (10.1)	Control gear protected against accidental contact with live parts	All live part closed by insulation enclosure	P
- (A2)	Voltage measured with 50 kΩ	(See Annex A)	P
- (A3)	Voltage > 35 V peak or > 60 V d.c.	(See Annex A)	N/A
- (10.1)	Lacquer or enamel not used for protection or insulation		P
	Adequate mechanical strength on parts providing protection		P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V ..... :	0 V	P
- (10.3)	**Control gear providing SELV**		P
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV control gear		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.		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	Y1	P
	Y1 or Y2 capacitors comply with IEC 60384-14		P
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A

9 (8)	**TERMINALS**		-
- (8.1)	**Integral terminals**		N/A
	Screw terminals according to section 14 of IEC 60598-1:		N/A
	Separately approved; component list	(See Annex 1)	N/A
	Part of the control gear	(See Annex 2)	N/A
	Screwless terminals according to section 15 of IEC 60598-1:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Separately approved; component list	(See Annex 1)	N/A
	Part of the control gear	(See Annex 3)	N/A
- (8.2)	**Terminals other than integral terminals**		N/A
	Comply with relevant IEC standard	(See Annex 1)	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**		-
- (9.1)	**Provisions for protective earthing**		N/A
	Terminal complying with clause 8		N/A
	Locked against loosening and not possible to loosen by hand		N/A
	Not possible to loosen clamping means unintentionally on screwless terminals		N/A
	All parts of material minimizing the danger of electrolytic corrosion		N/A
	Made of brass or equivalent material		N/A
	Contact surface bare metal		N/A
	Test according 7.2.3 of IEC 60598-1		N/A
- (9.2)	**Provision for functional earthing**		N/A
	Comply with clauses 8 and 9.1		N/A
	Functional earth insulated from live parts by double or reinforced insulation		N/A
- (9.3)	**Lamp control gear with conductors for protective earthing by tracks on printed circuit board**		N/A
	Test with a current of 25 A between earthing terminal or earthing contact and each of the accessible metal parts; measured resistance (Ω) at ≥ 10 A according to 7.2.3 of IEC 60598-1: < 0,5 Ω ..... :		N/A
- (9.4)	**Earthing of built-in lamp control gear**		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 control gear		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
- (9.5)	**Earthing via independent control gear**		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 control gear		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 to 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**		-
- (11)	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance:		P
	For basic insulation ≥ 2 MΩ ..... :	> 100 MΩ	P
	For double or reinforced insulation ≥ 4 MΩ ..... :	> 100 MΩ	P
	Between primary and secondary circuits in control gear providing SELV, values in Annex L in IEC 61347-1		P
12 (12)	**ELECTRIC STRENGTH**		-
- (12)	Immediately after clause 11 electric strength test for 1 min		P
	Basic insulation for SELV, test voltage 500 V		P
	Working voltage ≤ 50 V, test voltage 500 V		P
	Working voltage > 50 V ≤ 1000 V, test voltage (V):		P
	Basic insulation, 2U + 1000 V		P
	Supplementary insulation, 2U + 1000 V		P
	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		P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
14 (14)	**FAULT CONDITIONS**		-
- (14.1)	When operated under fault conditions the control gear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected control gear 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)	N/A
- (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
- (14.6)	After the tests has been carried out on three samples:		P
	The insulation resistance ≥ 1 MΩ ..... :	> 100 MΩ	P
	No flammable gases		P
	No accessible parts have become live		P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.7)	Relevant fault condition tests with high-power a.c. supply and in turn to a d.c. supply (if claimed so)		—
14 (-)	Temperature declared thermally protected lamp control gear fulfil requirements in Annex C		N/A

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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Output voltage of SELV control gear not exceed limits in 10.4 of IEC 61347-1 during the test of 15.1 and 15.2		P
15.2 (-)	**Normal operation**		P
	Comply with clause L.6 of IEC 61347-1		P
15.3 (-)	**Abnormal operation**		P
	Comply with clause L.7 of IEC 61347-1		P
	Double LED modules or equivalent load connected in parallel to the output terminals of constant voltage type		N/A
	Double LED modules or equivalent load connected in serial to the output terminals of constant current type	Protected	P
15 (-)	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced		P
16 (15)	**CONSTRUCTION**		-
- (15.1)	**Wood, cotton, silk, paper and similar fibrous material**		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
- (15.2)	**Printed circuits**		P
	Printed circuits used as internal connections complies with clause 14		P
- (15.3)	**Plugs and socket-outlets used in SELV or ELV circuits**		N/A
	No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies		N/A
	Plugs and socket-outlets for SELV comply with IEC 60906-3 and IEC 60884-2-4		N/A
	Plugs and socket-outlets for SELV ≤ 3 A, ≤ 25 V r.m.s. or ≤ 60 V d.c. and ≤ 72 W comply with IEC 60906-3 and IEC 60884-2-4 or:		N/A
	- plugs not able to enter socket-outlets of other standardised system		N/A
	- socket-outlets not admit plugs of other standardised system		N/A
	- socket-outlets without protective earth		N/A
- (15.4)	**Insulation between circuits and accessible parts**		P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (15.4.2)	SELV circuits		P
	Source used to supply SELV circuits:		P
	- safety isolating transformer in accordance with relevant part 2 of IEC 61558		P
	- control gear 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
	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 to Table 6 in 15.4.5		P
- (15.4.3)	FELV circuits		N/A
	Source used to supply FELV circuits:		N/A
	- separating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- separating control gear 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 to 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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	- socket-outlets not admit plugs of other voltage systems		N/A
	- socket-outlets have a protective conductor contact		N/A
- (15.4.4)	Other circuits		N/A
	Insulation between circuits other than SELV or FELV and accessible conductive parts in according to Table 6 in 15.4.5.		N/A
- (15.4.5)	Insulation between circuits and accessible conductive parts		N/A
	Accessible conductive parts insulated from active parts of electric circuits by insulating according to Table 6		N/A
	Requirements for Class II construction with equipotential bonding for protection against indirect contact with live parts:		N/A
	- all conductive parts are connected together		N/A
	- conductive parts are reliably connected together according to 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**		-
- (16.1)	**General**		P
	Creepage distances and clearances according to 16.2 and 16.3		P
	Control gears providing SELV comply with additional requirements in Annex L	(See Annex L)	P
	Insulating lining of metallic enclosures		N/A
	Control gear protected against pollution comply with Annex P	(See Annex P)	N/A
- (16.2)	**Creepage distances**		P
- (16.2.2)	Minimum creepage distances for working voltages		P
	Creepage distances according to Table 7	(See appended table)	P
- (16.2.3)	Creepage distances for working voltages with frequencies above 30 kHz		N/A
	Creepage distances according to Table 8	(See appended table)	N/A
- (16.3)	**Clearances**		P
- (16.3.2)	Clearances for working voltages		P
	Clearances distances according to Table 9	(See appended table)	P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (16.3.3)	Clearances for ignition voltages and working voltages with higher frequencies		N/A
	Clearances distances for basic or supplementary insulation according to Table 10	(See appended table)	N/A
	Clearances distances for reinforced insulation according to Table 11	(See appended table)	N/A

18 (17)	**SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS**		-
- (17)	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		P
(4.11.5)	No contact to wood or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		N/A
(4.12)	**Mechanical connections and glands**		N/A
(4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part ..... :		N/A
	Torque test: torque (Nm); part ..... :		N/A
	Torque test: torque (Nm); part ..... :		N/A
(4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
(4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm)..... :		N/A
	- lampholder; torque (Nm) ..... :		N/A
	- push-button switches; torque 0,8 Nm..... :		N/A
(4.12.5)	Screwed glands; force (Nm) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
19 (18)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		-
- (18.1)	Ball-pressure test ..... :	See Test Table 19 (18.1)	P
- (18.2)	Test of printed boards ..... :	See Test Table 19 (18.2)	P
- (18.3)	Glow-wire test ..... :	See Test Table 19 (18.3)	P
- (18.4)	Needle flame test ..... :	See Test Table 19 (18.4)	P
- (18.5)	Tracking test ..... :	See Test Table 19 (18.5)	P
20 (19)	**RESISTANCE TO CORROSION**		-
	- 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**		-
	Not exceed declared maximum working voltage U_{out} in any load condition		P

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Clause	Requirement + Test	Result - Remark	Verdict

14	**TABLE: tests of fault conditions**	P
Part	Simulated fault	Hazard
SR-WP-20W580		
VR1	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
EC1	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
T1	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
Q1(G-D)	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
Q1(S-D)	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
Q1(G-S)	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
BD1	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
D3	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
Output (+,-)	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
SR-WP-10W280		
VR1	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
EC1	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
T1	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
BD1	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
Q3(G-D)	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
Q3(S-D)	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
Q3(G-S)	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
U1	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
D3	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
Output (+,-)	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
SR-WP-6W230		
BD1	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
VR1	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
EC1	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
U1	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
Q3(G-D)	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
Q3(S-D)	Short-circuit, Fuse opened immediately, no hazard	~~YES~~/NO
Q3(G-S)	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO
R5	Short-circuit, shut down, recoverable, no hazard	~~YES~~/NO

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Clause	Requirement + Test	Result - Remark	Verdict
D4	Short-circuit, shut down, recoverable, no hazard		~~YES/~~NO
T1	Short-circuit, shut down, recoverable, no hazard		~~YES/~~NO
Output (+,-)	Short-circuit, shut down, recoverable, no hazard		~~YES/~~NO

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Clause	Requirement + Test	Result - Remark	Verdict

17 (16)	**TABLE: clearance and creepage distance measurements (mm)**							P
Applicable part of IEC 61347-1 Table 7 – 11*								
Distances	**Insulation type ****	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:	B	＞2.0	1.5	Table 9	＞3.3	2.5	Table 7	
Working voltage (V) .....:					240 V			—
Frequency if applicable (kHz) .....:					-			—
PTI .....:					< 600 ☒	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					-			—
Pulse voltage if applicable (kV) .....:					-			—
Supplementary information: Between L and N								
Distance 2:	B	4.0	1.5	Table 9	4.0	2.5	Table 7	
Working voltage (V) .....:					240 V			—
Frequency if applicable (kHz) .....:					-			—
PTI .....:					< 600 ☒	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					-			—
Pulse voltage if applicable (kV) .....:					-			—
Supplementary information: Two pole of fuse								
Distance 3:	R	7.0	3.0	Table 9	7.0	5.0	Table 7	
Working voltage (V) .....:					240 V			—
Frequency if applicable (kHz) .....:					-			—
PTI .....:					< 600 ☒	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					-			—
Pulse voltage if applicable (kV) .....:					-			—
Supplementary information: Between primary circuit and secondary								
Distance 4:	R	＞3.9	3.0	Table 9	＞6.5	5.0	Table 7	
Working voltage (V) .....:					240 V			—
Frequency if applicable (kHz) .....:					-			—
PTI .....:					< 600 ☒	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:					-			—
Pulse voltage if applicable (kV) .....:					-			—

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information: Between Live part and accessible surface

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

19 (18.1)	**TABLE: Ball Pressure Test of Thermoplastics**		**P**
Allowed impression diameter (mm) .....:		2	—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
Bobbin	See Annex 1	125	0.7
Plastic enclosure	See Annex 1	112 (86.7+25)	1.3
PCB	See Annex 1	125	0.75
Supplementary information:			

19 (18.2)	**TABLE: Test of printed boards**				P
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (s)	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
PCB	See Annex 1	30	no	0	pass
Supplementary information:					

19 (18.3)	**TABLE: Resistance to heat and fire - Glow wire tests**				**P**
Object/ Part No./ Material	**Manufacturer/ trademark**	**GWT (°C): 750**			**Verdict**
		t_E (s)	**t_I (s)**	**t_R (s)**	
Plastic enclosure	See Annex 1	0	0	0	pass
Bobbin	See Annex 1	0	0	0	pass
PCB	See Annex 1	0	0	0	pass
X capacitor	See Annex 1	0	0	0	pass
Ignition of the specified layer placed underneath the test specimen (Yes/No) .....:					No

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

19 (18.4)	**TABLE: Needle- flame test**				**P**
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Bobbin	See Annex 1	10	no	0	pass

Supplementary information:

19 (18.5)	**TABLE: Proof tracking test**				P
Test voltage PTI ..... :		175V			P
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
Bobbin	See Annex 1	yes	yes	yes	pass
PCB	See Annex 1	yes	yes	yes	pass
Plastic enclosure	See Annex 1	yes	yes	yes	pass

Supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict
A (A)	**ANNEX A - TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK**		-
- (A.1)	Comply with A.2 or A.3		P
- (A.2)	Voltage ≤ 35 V peak or ≤ 60 V d.c ..... :	Max.60 VDC (no-load)	P
- (A.3)	If voltage measured according to Clause A.2 exceeds the limit value; touch current does not exceed 0,7 mA (peak) or 2 mA d.c. ..... :		N/A

C (C)	**ANNEX C – PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROL GEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING**		-
- (C3)	**GENERAL REQUIREMENTS**		N/A
- (C3.1)	Thermal protection means integral with the convertor, protected against mechanical damage		N/A
	Renewable only by means of a tool		N/A
	If function depending on polarity, for cord-connected equipment protection means in both leads		N/A
	Thermal links comply with IEC 60691		N/A
	Electrical controls comply with IEC 60730-2-3		N/A
- (C3.2)	No risk of fire by breaking (clause C7)		N/A
- (C5)	**CLASSIFICATION**		N/A
	a) automatic resetting type		—
	b) manual resetting type		—
	c) non-renewable, non-resetting type		—
	d) renewable, non-resetting type		—
	e) other type of thermal protection; description ..... :		—
- (C6)	**MARKING**		N/A
- (C6.1)	Symbol for temperature declared thermally protected ballasts		N/A
- (C6.2)	Declaration of the type of protection provided		N/A
- (C7)	**LIMITATION OF HEATING**		N/A
- (C7.1)	**Preselection test:**		N/A
	Test sample placed for at least 12 h in an oven having temperature (t_c - 5) K		N/A
	No operation of the protection device		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
- (C7.2)	**Functioning of protection means:**		N/A
	Normal operation of the sample in a test enclosure according to Annex D at an ambient temperature such that (t_c +0; -5) °C is obtained		N/A
	No operation of the protection device		N/A
	Introducing of the most onerous test condition determined during test of clause 14.2 to 14.5		N/A
	Output of windings connected to the mains supply short-circuited, and other part of the control gear 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 does not exceed marked value		N/A

D(D)	**ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROL GEAR**		-
	Tests in C7 performed in accordance with Annex D, if applicable		N/A

F(F)	**ANNEX F: DRAUGHT-PROOF ENCLOSURE**		-
	Draught-proof enclosure in accordance with the description		P
	Dimensions of the enclosure		P
	Other design; description		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
H (H)	**ANNEX H - TESTS**		-
	All tests performed in accordance with the advice given in Annex H, if applicable		P

I (L)	**ANNEX L IN PART 1: PARTICULAR ADDITIONAL REQUIREMENTS FOR CONTROL GEARS PROVIDING SELV**		-
(L.3)	**Classification**		P
	Class I	Yes ☐ No ☒	—
	Class II *(Class II structure)*	Yes ☒ No ☐	—
	Class III	Yes ☐ No ☒	—
	non-inherently short circuit proof control gear	Yes ☐ No ☒	—
	inherently short circuit proof control gear	Yes ☐ No ☒	—
	fail safe control gear	Yes ☐ No ☒	—
	non-short-circuit proof control gear	Yes ☐ No ☒	—
(L.4)	**Marking**		P
	Adequate symbols are used		P
(L.5)	**Protection against electric shock**		P
	Comply with clause 9.2 of IEC 61558-1		P
(L.6)	**Heating**		P
	No excessive temperatures in normal use		P
	Value if capacitor t_c marked ..... :	80 °C	P
	Winding insulation classified as Class ..... :	Class B	—
	Comply with tests of clause 14 of IEC 61558-1 with adjustments		—
(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 ..... :	> 100 MΩ	P

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Clause	Requirement + Test	Result - Remark	Verdict
	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 ..... :	> 100 MΩ	P
	Between metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 MΩ ..... :	> 100 MΩ	P
(L.8.3)	Electric strength		P
	1) Between live parts of input circuits and live parts of output circuits ..... :	1875 V	P
	2) Over basic or supplementary insulation between:		N/A
	a) live parts having different polarity ..... :	1875 V	P
	b) live parts and body if intended to be connected to protective earth ..... :		N/A
	c) accessible metal parts and a metal rod of the same diameter as the flexible cable or cord ..... :		N/A
	d) live parts and an intermediate metal part ..... :		N/A
	e) intermediate metal parts and the body ..... :		N/A
	f) each input circuit and all other input circuits ..... :		N/A
	3) Over reinforced insulation between the body and live parts ..... :	3750 V	P
(L.9)	**Construction**		P
(L.9.1)	Transformer comply with 19.12 of IEC 61558-1 and 19 of IEC 61558-2-6		P
	HF transformer comply with 19 of IEC 61558-2-16		P
(L.10)	**Components**		N/A
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1		N/A
(L.11)	**Creepage distances, clearances and distances through insulation**		P
	Creepage distances and clearances not less than in Clause 16		P
	Distance through insulation according Table L.5 in IEC 61347-1		P
	1) Basic distance through insulation		N/A
	Required distance (mm) ..... :		—
	Measured (mm) ..... :		N/A
	Supplementary information		—
	2) Supplementary distance through insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Required distance (mm) ..... :		—
	Measured (mm) ..... :		N/A
	Supplementary information		—
	3) Reinforced distance through insulation		P
	Required distance (mm) ..... :	0.83 mm	—
	Measured (mm) ..... :	1.5 mm	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 CONTROL GEAR FOR EMERGENCY LIGHTING**		-
J.1	**General**		N/A
	Intended for centralized emergency power supply	Yes ☐ No ☐	—
J.2	**Marking**		N/A
J.2.1	Mandatory markings		N/A
	a) symbol EL		N/A
	b) rated emergency supply voltage (V)		N/A
J.2.2	Information to be provided if applicable		N/A
	a) Limits of ambient temperature		N/A
	b) Emergency output factor (EOFX)		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

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Clause	Requirement + Test	Result - Remark	Verdict
	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 (EOFx)**		N/A
	Declared emergency output factor (EOFx) achieved during emergency operation		N/A

(N)	**ANNEX N IN PART 1: REQUIREMENTS FOR INSULATION MATERIALS USED FOR DOUBLE OR REINFORCED INSULATION**		-
(N.4)	**General requirements**		P
(N.4.1)	Material comply with IEC 60085 and IEC 60216 series		N/A
(N.4.2)	**Solid insulation**		P
	Electric strength test at least 5 kV or 1,35 x test voltage in Table N.1	5063 V	P
	If not classified according to 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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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 IN PART 1: ADDITIONAL REQUIREMENTS FOR BUILT-IN ELECTRONIC CONTROL GEAR WITH DOUBLE OR REINFORCED INSULATION**		-
(O.6)	**Marking**		P
	Marking according to clause 7 (7)		P
	Special symbol		P
	Meaning of the special symbol explained in catalogue		P
(O.7)	**Protection against accidental contact with live parts**		P
	Requirements of clause 8 (10)		P
	Test finger not possible to make contact with basic insulated metal parts		P
(O.8)	**Terminals**		N/A
	Clause 9 (8)		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)		N/A
(O.11)	**Electric strength**		P
	Clause 12 (12)		N/A
(O.13)	**Fault conditions**		P
	Clause - (14)		P
	End of test, between live part and accessible metal parts or external parts of insulating material in contact with the supporting surface comply with dielectric strength test according to clause 12 reduced to 35 % of values according toTable 1 in part 1		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Insulation resistance according to O.10 between live part and accessible metal parts or external parts of insulating material in contact with the supporting surface not less than 4 MΩ		P
(O.14)	**Construction**		P
	Clause 17 (15)		P
	Accessible metal parts insulated from live parts by double or reinforced insulation		N/A
	Live part insulated from supporting surface in contact with external faces by double or reinforced insulation		P
(O.15)	**Creepage distances and clearances**		P
	Clause 18 (16)		P
	Comply with corresponding values for luminaries in IEC 60598-1		P
(O.16)	**Screws, current-carrying parts and connections**		P
	Clause 19 (17)		P
(O.17)	**Resistance to heat and fire**		P
	Clause 20 (18)		P
(O.18)	**Resistance to corrosion**		N/A
	Clause 21 (19)		N/A
(P)	**Creepage distances and clearances and distance through isolation (DTI) for lamp control gear which are protected against pollution by the use of coating or potting**		-
(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		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Reinforced insulation:		N/A
	Required creepage ..... :		—
	Measured..... :		N/A
	Supplementary information		—
(P.2.3)	Creepage distances for working voltages with frequencies above 30 kHz (Table P.2)		N/A
	Voltage Ûout 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 to 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 to 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 to Clause 11 and 12		N/A
(P.3.4.2)	Impulse voltage dielectric 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)]**
Double-insulated input Wire	B	Dongguan Nistar Transmitting Technology Co. In	7022	300/500 V, 0.75 mm^2	DIN 5725	VDE 40007934
Output wire	C	GUANGDONG ZHIHE WIRE & CABLE CO LTD	1007	300/500 V, 20 AWG	AS 61347.2.13	UL E251728 Tested with appliance
Plastic Enclosure (for all models)	C	SABIC INNOVATIVE PLASTICS B V	945 (GG), 945AU(GG)(f1)	PC, V-0	AS 61347.2.13	UL E45329 Tested with appliance
(Alternative)	C	SINOPEC SABIC TIANJIN PETROCHEMICAL CO LTD	141R-111(f2)	PC, V-2	AS 61347.2.13	UL E357911 Tested with appliance
(Alternative)	C	Covestro Deutschland AG [PC Resins]	2805 + (z)(f1)	PC, V-2	AS 61347.2.13	UL E41613 Tested with appliance
(Alternative)	C	WANHUA CHEMICAL GROUP CO LTD	A1105	PC, V-2	AS 61347.2.13	UL E351523 Tested with appliance
PCB	C	DONG GUAN RONG MAO ELECTRONICS CO LTD	R-3	V-0, 130 °C	AS 61347.2.13	UL E252481 Tested with appliance
(Alternative)	C	DONGGUAN DONGHONGXIN ELECTRONICS CO LTD	DHX	V-0, 130 °C	AS 61347.2.13	UL E342984 Tested with appliance
(Alternative)	C	Foshan Junze Electronics Co., Ltd	JZ-M, JZ-D	V-0, 130 °C	AS 61347.2.13	UL E330831 Tested with appliance
(Alternative)	C	Huizhou Huangjia Technology Co Ltd	HG-M, HG-D	V-0, 130 °C	AS 61347.2.13	UL E479413 Tested with appliance

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

(Alternative)	C	SHENZHEN HEHEXIN ELECTRONIC TECHNOLOGY CO LTD	HHX-M, HHX-D, HHX-1	V-0, 130 °C	AS 61347.2.13	UL E363709 Tested with appliance
(Alternative)	C	JIANGMEN BENLIDA PRINTED CIRCUIT CO.,LTD	BLD	V-0, 130 °C	AS 61347.2.13	UL E203640 Tested with appliance
(Alternative)	C	SHENZHEN JI HAO ELECTRONIC CO LTD	JH-2	V-0, 130 °C	AS 61347.2.13	UL E316355 Tested with appliance
(Alternative)	C	DONGGUAN DAYSUN ELECTRONIC CO LTD	DS	V-0, 130 °C	AS 61347.2.13	UL E251754 Tested with appliance
(Alternative)	C	JIANGXI XINGHAIRONG CIRCUIT BOARD CO LTD	XHR	V-0, 130 °C	AS 61347.2.13	UL E495648 Tested with appliance
Potting material	C	SHENZHEN HUATIANQI TECHNOLOGY CO.,LTD	CS-9812	V-0, 150 °C	AS 61347.2.13	UL E511620 Tested with appliance
(Alternative)	C	Dongguan Yilin Electronic Material Co Ltd	YL8081AB, YL8080AB	V-0, 105 °C	AS 61347.2.13	UL E465815 Tested with appliance
(Alternative)	C	SHENZHEN TOSHIN SILICONE MATERIAL CO LTD	TS-45	V-0, 105 °C	AS 61347.2.13	UL E345066 Tested with appliance
X capacitor	B	Shenzhen Ruidiwei Technology Co., Ltd.	MKP	300/310 VAC, 110 °C, X2, 0.1 uF	IEC 60384-14	VDE 40036287
(Alternative)	D	Shantou Xinyin Electronics Technology Co. Ltd.	MPX	300/310 VAC, 110 °C, X2, 0.1 uF	IEC 60384-14	VDE 40040448
(Alternative)	D	GUANGDONG SURONG CAPACITORS CO., LTD	MPX/MKP	280/310 VAC, 110 °C, X2, 0.1 uF	IEC 60384-14	VDE 40008924
(Alternative)	D	Shenzhen Sincerity Technology Co., Ltd.	MPX/MKP	275 VAC, 110 °C, X2, 0.1 uF	IEC 60384-14	VDE 40028812

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

(Alternative)	D	Sichuan Sincerity Technology Co., Ltd.	MPX/MKP	275 VAC, 110 °C, X2, 0.1 uF	IEC 60384-14	VDE 40052140
(Alternative)	D	Guangdong JURCC electronics Co., LTD.	MPX/MKP	275 VAC, 110 °C, X2, 0.1 uF	IEC 60384-14	VDE 40034920
Y capacitor	B	JYH HSU (JEC) ELECTRONICS LTD	JD	400 VAC, 125 °C, Y1, 2200 pF	IEC 60384-14	VDE 40038642
(Alternative)	D	Shantou Jingtian Electronics Co., Ltd	CD Series	400 VAC, 125 °C, Y1, 2200 pF	IEC 60384-14	VDE 40048749
(Alternative)	D	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	CD Series	250 VAC, 125 °C, Y1, 2200 pF	IEC 60384-14	VDE 40025754
Y capacitor (for circuit diagram A models)	B	Huizhou Jingqin Electronic Components Co. LTD	SMD	500 VAC, 125 °C, Y1, 1000 pF	IEC 60384-14	CB CN57354-A1/M1
Varistor (VR1)	B	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	07D471K	470 VAC, 85 °C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40023049
(Alternative)	D	Hongzhi Enterprises Ltd.	HEL7D471K	470 VAC, 85 °C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40037512
(Alternative)	D	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	ZVR07D471	470 VAC, 85 °C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40027789
Fuse (F1)	B	Shenzhen Lanson Electronics Co. Ltd.	SMT	AC 250 V, 1 A, 2 A	IEC 60127-1 IEC 60127-3	VDE 40012592
(Alternative)	D	Dongguan Better Electronics Technology Co., Ltd.	932	AC 250 V, 1 A, 2 A	IEC 60127-1 IEC 60127-3	VDE 40033369
(Alternative)	D	Conquer Electronics Co., Ltd.	MST	AC 250 V, 1 A, 2 A	IEC 60127-1 IEC 60127-3	VDE 40017118
(Alternative)	D	Dongguan Hongda Electronic Technology Co., Ltd.	2009	AC 250 V, 1 A, 2 A	IEC 60127-1 IEC 60127-3	VDE 40028260

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

(Alternative)	D	Foshan Yuetai Electronic Technology Co., LTD	RXF-1/2W, RXF-1W	2.2 Ω, 5.1Ω, 10Ω	IEC 62368-1	VDE 40054729
Transformer (For circuit diagram A models)	C	Zhongshan Honghua Electronics Co., Ltd.	SR-JB1001-6W	Class B	AS 61347.2.13	Tested with appliance
Transformer (For circuit diagram B models)	C	Zhongshan Honghua Electronics Co., Ltd.	SR-JB1002-12W	Class B	AS 61347.2.13	Tested with appliance
Transformer (For circuit diagram C models)	C	Zhongshan Honghua Electronics Co., Ltd.	SR-JB1003-20W	Class B	AS 61347.2.13	Tested with appliance
-Bobbin	C	CHANG CHUN PLASTICS CO LTD	T375J(G5)(G6)	PMC, V-0, 150 °C	AS 61347.2.13	UL E59481 Tested with appliance
(Alternative)	C	SUMITOMO BAKELITE CO LTD	PM-9630	PF, V-0, 150 °C	AS 61347.2.13	UL E41429 Tested with appliance
(Alternative)	C	CHANGSHU SOUTH-EAST PLASTIC CO LTD	PF1D1-7530J#	PF, V-0, 150 °C	AS 61347.2.13	UL E136137 Tested with appliance
- Triple insulated wire	B	Furukawa Electric Co., Ltd.	TEX-E	130 °C	IEC 62368-1	VDE 006735
(Alternative)	D	Shanghai Lucky Trade Co., Ltd.	TIW-B	130 °C	IEC 62368-1	VDE 40023686
(Alternative)	D	Shenzhen Kaizhong Hedong New Materials Co., Ltd.	TIW-B	130 °C	IEC 62368-1	VDE 40038861
(Alternative)	D	Shenzhen Darun Science and Technology Co., Ltd	DRTIW-B	130 °C	IEC 62368-1	VDE 40032470
(Alternative)	D	Shenzhen Darun Science and Technology Co., Ltd	DRTIW-B	130 °C	IEC 61558-1 IEC 61558-2-16	VDE 40041174
- Magnet wire	C	TAI-I ELECTRIC WIRE & CABLE CO LTD	UEW	130 °C	AS 61347.2.13	UL E85640 Tested with appliance
(Alternative)	C	SHENZHEN CHENGWEI INDUSTRY CO LTD	(x)UEW-E-(&)-(*)	130 °C	AS 61347.2.13	UL E227475 Tested with appliance

IEC 61347-2-13						
Clause	Requirement + Test			Result - Remark		Verdict
(Alternative)	C	WUHU COPPER CROWN ELECTRICIAN LTD	UEW/N	130 °C	AS 61347.2.13	UL E326270 Tested with appliance
(Alternative)	C	TONGLING NONFERROUS COPPER CROWN ELECTRICAL CO LTD	QZ-*/130	130 °C	AS 61347.2.13	UL E217937 Tested with appliance
(Alternative)	D	SIHUI HENGHUI ELECTRICAL APPLIANCES CO LTD	@*UEW/155	155 °C	AS 61347.2.13	UL E337948 Tested with appliance
(Alternative)	D	EASEBOND ELECTRICAL MATERIAL (DONGGUAN) CO LTD	2UEW	130 °C	AS 61347.2.13	UL E173779 Tested with appliance
- Insulation tape	C	3M COMPANY	1350F-1 (b)	130 °C	AS 61347.2.13	UL E17385 Tested with appliance
(Alternative)	D	SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD	JY313#	130 °C	AS 61347.2.13	UL E188295 Tested with appliance
(Alternative)	D	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT-280B	130 °C	AS 61347.2.13	UL E165111 Tested with appliance
(Alternative)	D	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A (b)	130 °C	AS 61347.2.13	UL E246950 Tested with appliance
- Tubing	C	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-T	300 V, 200 °C, PTFE	AS 61347.2.13	UL E180908 Tested with appliance
(Alternative)	D	FUREDA PLASTIC CO LTD	FRD-TT-T	300 V, 200 °C, PTFE	AS 61347.2.13	UL E254113 Tested with appliance
(Alternative)	D	DONGGUAN CITY CHANGJIE METALS & PLASTIC PRODUCTS CO LTD	CJ-TT-T	300 V, 200 °C, PTFE	AS 61347.2.13	UL E338209 Tested with appliance

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Clause	Requirement + Test	Result - Remark	Verdict

(Alternative)	D	DONGGUAN CITY JIEPU ELECTRONICS CO LTD	JP-TT-T	300 V, 200 °C, PTFE	AS 61347.2.13	UL E362550 Tested with appliance
Varnish	C	Resonac Corporation	WP-2952	130 °C	AS 61347.2.13	UL E72979 Tested with appliance
(Alternative)	D	ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD	E962	130 °C	AS 61347.2.13	UL E335405 Tested with appliance
(Alternative)	D	John C Dolph Co	BC-346A	130 °C	AS 61347.2.13	UL E317427 Tested with appliance
(Alternative)	D	YUEYANG GREEN TECHNOLOGY CO LTD	JX-1150(a)	130 °C	AS 61347.2.13	UL E303754 Tested with appliance
Heat-Shrinkable Tube	C	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR-H	600V,125°C	AS 61347.2.13	UL E203950 Tested with appliance
(Alternative)		DONGGUAN SALIPT CO.,LTD.	S-901-600	600V,125°	AS 61347.2.13	UL E209436 Tested with appliance
(Alternative)		SHENZHEN WOLIDA TRADING CO LTD	RSFR-H	600V; 125°C	AS 61347.2.13	UL E329530 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

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
ANNEX 2	**Screw terminals (part of the control gear)**		-
(14)	**SCREW TERMINALS**		N/A
(14.2)	Type of terminal ..... :		—
	Rated current (A) ..... :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm²) ..... :		—
(14.3.3)	Conductor space (mm) ..... :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread) .... :	M	N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm)..... :		N/A
	Torque (Nm) ..... :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N) ..... :		N/A
(14.4.8)	Without undue damage		N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
ANNEX 3	**Screwless terminals (part of the control gear)**		-
(15)	**SCREWLESS TERMINALS**		N/A
(15.2)	Type of terminal ..... :		—
	Rated current (A) ..... :		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5)	Terminals and connections for internal wiring		N/A
(15.5.1)	Mechanical tests		N/A
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples)..... :		N/A
(15.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples)..... :		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples) ..... :		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples)..... :		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples)..... :		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples)..... :		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples)..... :		N/A
(15.6)	Terminals and connections for external wiring		N/A
(15.6.1)	Conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 to 15.6.3.1 + 15.6.3.2 in IEC 60598-1		N/A

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

Attachment No.1 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 61347-2-13
AUSTRALIA / NEW ZEALAND NATIONAL DIFFERENCES
Lamp Controlgear
Part 2.13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules

Differences according to.....:	AS/NZS61347.2.13:2018 AS/NZS 61347.1:2016 + A1:2018 + Rule 1:2020
TRF template used: ..... :	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No. .....:	AU_NZ_ND_IEC61347_2_13G
Attachment Originator .....:	JAS-ANZ
Master Attachment .....:	2021-11-19

	National Differences	-
ZZ1	Scope This Appendix sets out variations between this Standard and IEC 61347-1 Ed.3.0 (2015) and additional requirements to cover issues that have not been addressed by the International Standard. (AS/NZS 61347.1:2016).	P
ZZ1	Scope This part of IEC 61347-1:2015 specifies general and safety requirements for lamp controlgear for use on d.c. supplies up to 250 V and/or a.c. supplies up to 1 000 V at 50 Hz or 60 Hz. This standard also covers lamp controlgear for lamps which are not yet standardized. Tests dealt with in this standard are type tests. Requirements for testing individual lamp controlgear during production are not included. Requirements for semi-luminaires are given in IEC 60598-1:2014 (see definition 1.2.60). (AS/NZS 61347.1:2016 + A1:2018)	P
ZZ2	The following variations are required in Australia and New Zealand:	P
(1)	Addition At the end of Clause 1, *add* the following text: Where the term lamp is used within this standard it is taken to include electric light sources. LED light sources are to be subject to the same test parameters as “other discharge lamps”. (AS/NZS 61347.1:2016+ A1:2018	P

Attachment No.1 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
	Amendment 1 specifies additional safety requirements for independent lamp controlgear to provide adequate protection in respect of the fire risk associated with the combination of independent lamp controlgear used with recessed luminaires, flammable building elements, flammable debris and building insulation (AS/NZS 61347.1:2016		P
2	**Normative References**		-
(2)	*Addition* *Add* the following new normative references: AS 60529, Degrees of protection provided by enclosures (IP Code) AS/NZS 3191, *Electric flexible cords* AS/NZS 4859.1, Materials for the thermal insulation of buildings—General criteria and technical provisions AS/NZS 60695.2.11, *Fire hazard testing — Part 2.11: Glowing/hot-wire* *based test methods—Glow-wire flammability test method for end-products* AS/NZS 60695.11.10, *Fire hazard testing — Part 11.10: Test flames —* *50 W horizontal and vertical flame test methods* IEC 61048, *Auxiliaries for lamps — Capacitors for use in tubular fluorescent* *and other discharge lamp circuits — General and safety requirements* AS/NZS 61049, *Auxiliaries for lamps — Capacitors for use in tubular* *fluorescent and other discharge lamp circuits — Performance requirements* AS/NZS 61347, Lamp controlgear (all parts) AS/NZS 61535, *Installation couplers* (AS/NZS 61347.1:2016)		P
2 (2)	Addition After the first paragraph, *add* the following: 1.Where IEC normative references are replaced in Appendix ZZ by Australian or Australian/New Zealand Standards, all references in the source text to those IEC normative references shall be replaced by references to the corresponding Australian/New Zealand Standards.		P
	2. Delete 'IEC 61347-1, *Lamp controlgear — Part 1: General and safety requirements*' and *replace* with: *AS/NZS 61347.1, Lamp controlgear, Part 1: General and safety requirements (IEC 61347-1:2015, MOD)*		P
	3. Delete 'IEC 61558-2-6:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V — Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units*		P

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Clause	Requirement + Test	Result - Remark	Verdict
	incorporating safety isolating transformers' and *replace* with: AS/NZS 61558.2.6, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V, Part 2.6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers* (IEC 61558-2-6 Ed.2, MOD)		
	4. Delete '*IEC 61558-2-16:2009, Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V —* *Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units*' and *replace* with: AS/NZS 61558.2.16:2010, *Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units* (AS 61347.2.13:2018)		P
4	**General requirements**		-
(4)	Addition 1. After the fourth paragraph, *add* the following new Note: NOTE Test conditions and marking requirements for independent controlgear, for use with building insulation or flammable surfaces, for example when used with recessed luminaires, are under consideration.		P
	At the end of the clause, *add* new Clause 4.101 (AS/NZS 61347.1:2016 + A1:2018)		P
4 (4)	Addition At the end of the clause, *add* the following: – Where the controlgear has accessible outputs, the controlgear shall be SELV output and conform with Annex I. (AS 61347.2.13:2018)		P
5	**General notes on tests**		-
(5)	Addition At the end of Clause 5, *add* new Clause 5.101 (AS/NZS 61347.1:2016 + A1:2018)		P
7	**Marking**		-
(7.1)	After the first paragraph, *add* the following text: In Australia and New Zealand, information, instructions and other texts required by this Standard shall be written in English.		P
	The information provided shall contain details related to components in controlgear requiring		N/A

Attachment No.1 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
	replacement as part of a maintenance program.		
	FELV control terminals shall be marked with the warning symbol “Risk of electric shock”		N/A
	Instructions shall be provided with controlgear that have FELV control terminals that state the following: WARNING: FELV terminals marked “Risk of electric shock” are not safe to touch.		N/A
	WARNING: Circuits connected to any FELV control terminal shall be insulated for the LV supply voltage of the controlgear and any terminals connected to the FELV circuit shall be protected against accidental contact. (AS/NZS 61347.1:2016)		N/A
8	**Protection against accidental contact with live parts**		-
	Delete text and *replace* with the following: The requirements of Clause 10 of IEC 61347-1 apply except that the text of Clause 10.4 shall be deleted and replaced with the following:		P
	Output circuits of SELV controlgear with accessible outputs shall not exceed 25 V r.m.s. or 60 V d.c. ripple-free d.c. under load except as indicated below. If the voltage exceeds 25 V r.m.s. or 60 V ripple-free d.c., the output shall comply with the following: a) the touch current shall not exceed: – for a.c.: 0,7 mA (peak); – for d.c.: 2,0 mA; b) the no-load output shall not exceed 35 V peak or 60 V ripple-free d.c. NOTE The limits given are based on IEC 60364-4-41	not more than 60 VDC	P
	For controlgears with more than one supply voltage, the requirements are applicable for each of the rated supply voltages		N/A
	Controlgear with an output greater than the limits above shall have insulated terminals.		N/A
	Conformance is checked by measuring the output voltage when steady conditions are established, the controlgear being connected to rated supply voltage and rated frequency. For the test under load, controlgear is loaded with a resistance which would		P

Attachment No.1 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
	give rated output (current or wattage respectively) at rated output voltage. The touch current is checked by measurement in accordance with Annex G of IEC 60598-1.		
	Y1 or Y2 capacitors shall comply with relevant requirements of IEC 60384-14 and if resistors are used they shall comply with the requirements of test a) in 14.1 of IEC 60065:2001 (AS/NZS 61347.1:2016 + A1:2018)		P
(10)	**Protection against accidental contact with live parts**		-
(10.1)	After the second paragraph, *insert* the following text: For the purpose of this Clause, FELV circuits are considered a live part. (AS/NZS 61347.1:2016)		P
(18)	**Resistance to heat, fire and tracking**		-
(18.2)	Replacement *Delete* clause and *replace* with the following:		P
	18.2 Resistance to flame and ignition **18.2.1 General** Parts of non-metallic material shall be resistant to flame and ignition. For materials other than ceramic, compliance is checked by the tests of 18.2.2 and 18.2.3, 18.2.4 and 18.2.5, as appropriate. This requirement does not apply to decorative trims, knobs, wiring insulation and other parts not likely to be ignited or to propagate flames from inside the controlgear. This Clause applies to all parts, including components, even if they have been tested to their own standard.		P
	18.2.2 Parts of non-metallic material supporting connections shall withstand the glow wire test. The test apparatus, test procedure and criteria shall be those described in AS/NZS 60695.2.11. The glow wire is heated to 750 °C and applied to one test sample for 30 s.		P
	18.2.3 All other parts of non-metallic material shall withstand the glow wire test. The test apparatus, test procedure and criteria		P

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Clause	Requirement + Test	Result - Remark	Verdict
	shall be those described in AS/NZS 60695.2.11. The glow wire is heated to 650 °C and applied to one test sample for 30 s.		
	18.2.4 During the application of the 750 °C glow wire test of Clause 18.2.2 if a flame is produced that persists for longer than 2 s, the controlgear is further tested as follows: The needle-flame test of AS/NZS 60695.11.5 is applied to non-metallic parts that encroach within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm above the point of application of the glow wire. Parts shielded by a barrier that meets the needle-flame test of AS/NZS 60695.11.5 are not tested.		N/A
	18.2.5 PCBs in controlgear shall be subject to the needle-flame test of AS/NZS 60695.11.5. (AS/NZS 61347.1:2016)		P
(18.3)	*Delete* clause and replace with the following:		P
	Replacement *Delete* clause and replace with the following: **18.3 Resistance to tracking** Lamp controlgear intended for building into luminaires other than ordinary, independent lamp controlgear, and lamp controlgear having insulation subject to starting voltages with a peak value higher than 1500 V shall be resistant to tracking. For materials other than ceramic, compliance is checked by subjecting the parts to the resistance to tracking test according to AS/NZS 60598-1. (AS/NZS 61347.1:2016)		P
(18.4)	Delete clause (AS/NZS 61347.1:2016)		N/A
(18.5)	Delete clause (AS/NZS 61347.1:2016)		N/A
21	**Maximum working voltage (U_{out}) in any load condition**		-
	After the first sentence, *add* the following: For SELV controlgear, the voltage at the output terminals shall not exceed the SELV		P

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Clause	Requirement + Test	Result - Remark	Verdict
	limits of Clause 10.4 of IEC 61347-1 as modified by Clause 8 of this Standard (AS 61347.2.13:2018). (AS/NZS 61347.1:2016 + A1:2018)		
	Special national conditions		-
(3)	*Add* the following new variation to Clause 3: **3.1.2** *Add* the following text: Independent lamp controlgear includes lamp controlgear permanently connected and lamp controlgear able to be disconnected from the light source. Independent lamp controlgear able to be disconnected are considered “separate to the luminaire”. NOTE Separate excludes cutting connection wires. Hereafter, “lamp controlgear” will be shown as “controlgear”. *Add* new Clause 3.101 and Clause 3.102 as follows:		P
	3.101 Do-not-cover classification An independent controlgear that can be used where normally flammable materials, including building insulation, are or may be present, but cannot be abutted against any material and cannot be covered in normal use.		P
	3.102 IC classification An independent controlgear that can be abutted against normally flammable materials, including building insulation, and can be covered in normal use. Building elements, building insulation or debris have restricted access to the heated parts of the controlgear.		N/A
	3.103 Non IC classification An independent controlgear that cannot be abutted against or covered by normally flammable materials or used in installations where building insulation or debris is, or may be, present in normal use. NOTE This classification is not suitable for residential installations. (AS/NZS 61347.1:2016)		N/A
(4)	At the end of the clause, add new Clause 4.101 as follows: 4.101 Supply connection wiring	Connecting leads	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Independent lamp controlgear shall be provided with only one of the following means of connection to the LV supply. The means of connection shall be on the following a) Device for the connection of controlgears. b) Terminals. c) Connecting lead (tails). d) Supply cord and plug. e) Adaptor for engagement with supply tracks. f) Appliance inlet or inlet plug. g) Installation coupler. h) Luminaire coupler. i) Integral pins for insertion into socket outlets.		
	In Australia, equipment with a supply cord shall be fitted with a plug complying with AS/NZS 3112 or a coupler complying with its standard. However for other than controlgear supplying portable luminaire a plug is not required if the controlgear is marked with a cord tag with the symbol for “must be installed by a licensed electrician” in accordance with AS/NZS 60598.1 NOTE 1 Requirements for equipment with integral pins are shown in AS/NZS 3112 Appendix J ‘Equipment with integral pins for insertion into socketoutlets’. NOTE 2 Requirements for supply cords used as a means of connection to the supply are shown in AS/NZS 60598.1 (AS/NZS 61347.1:2016)		N/A
(4.102)	*Add* new Clauses 4.102 as follows: **4.102 General** The resistance to dust and solid object provisions of Section 9 of AS/NZS 60598.1 apply, excluding the humidity test, along with the following: a) For independent controlgear with an IP classification greater than IP20, the tests and compliance criteria of Section 9 of AS/NZS 60598.1 shall be applied. b) For independent controlgear with an IC classification, the IP4X probe or IP rating tests of Clause 4.103 and compliance shall be applied. (AS/NZS 61347.1:2016)		N/A
(4.103)	*Add* new Clauses 4.103 as follows: **4.103 Ingress test for IC classified controlgear**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Solid foreign objects shall have restricted access to the hot surfaces of IC classified controlgear. The IP4X probe of AS 60529 shall be applied to the controlgear without appreciable force and shall not enter any area where the temperature of any part or surface exceeds the temperature limit for 'mounting surface: normally flammable surface' of AS/NZS 60598.1, when the surface is measured while the controlgear is operated in accordance with the thermal test conditions of Paragraph ZA1. (AS/NZS 61347.1:2016)		
(5)	**General Notes on Test**		-
(5.101)	Addition **5.101 Controlgear voltage** In Australia, for equipment other than Class III equipment, intended for connection to the a.c. supply mains, and that are not marked with: – a rated voltage of at least 240 V for single-phase equipment or a rated voltage of at least 415 V for three-phase equipment; or – a rated voltage range that includes 240 V for single-phase equipment and 415 V for three-phase equipment, the rated voltage for controlgear shall be equal to 240 V for single-phase equipment and 415 V for three phase equipment. The upper limit of the voltage range shall be equal to 240 V for single-phase equipment and 415 V for threephase equipment (AS/NZS 61347.1:2016)	110-240 V	P
(5.102)	**5.102 Independent controlgear for use near or in contact with building material or insulation** Independent controlgear shall be— a) classified, marked and tested for suitability for use near building materials or insulation and classified "Do not Cover", or b) classified, marked and tested for suitability for use in contact with building materials and coverable with insulation, and classified as "IC". (AS/NZS 61347.1:2016)	Built-in controlgear	N/A
(5.103)	**Thermal tests for "Do-not-Cover" classified controlgear**		N/A
	5.103.1 "Do not-Cover" controlgear, normal operation test Controlgear classified as "Do not Cover" shall be tested in accordance with the requirements of Clause 5.5.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	5.103.2 "Do-not-Cover" classified controlgear, abnormal operation test Controlgear classified as "Do not Cover" shall be tested in accordance with the requirements of Paragraph ZA3. When the "Do not Cover" controlgear is tested in accordance with Paragraph ZA3, no temperature shall exceed— a) 90 °C on the mounting surface of the test box; and b) 130 °C on the outer surface of the controlgear. There shall be no damage to the controlgear such as scorching, deformation or melting. During the test, thermal protective devices or electronic controls within the controlgear may operate to limit temperatures.		N/A
(5.104)	**5.104 Thermal tests for "IC" controlgear** Controlgear classified as "IC" shall be tested in accordance with the requirements of Paragraph ZA3. When the "IC" controlgear is tested in accordance with Paragraph ZA3, no temperature shall exceed— a) 90 °C on the controlgear mounting surface; and b) the lesser of t_c or 90 °C on the outside surface of the controlgear or other places accessible to the relevant test probe of Clause 4.103. There shall be no damage to the controlgear such as scorching, deformation or melting. During the test, no thermal protection device, or electronic control that fully turns off the controlgear shall operate. (AS/NZS 61347.1:2016)		N/A
(6)	**Classification**		-
(6.101)	*Add* new Clause 6.101 as follows: **6.101 Independent controlgear classification** Independent controlgear shall be classified as one of the following: a) Do-not-Cover. b) IC. c) Non IC (AS/NZS 61347.1:2016)		N/A
(7)	**Marking**		-
(7.101)	**7.101 Controlgear classification symbol** Independent controlgear shall be marked with the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	symbol shown in the appropriate figure of this clause and the meaning explained in the instructions provided with the controlgear. Controlgear classified as “Non IC” does not require to be marked. Controlgear classified as “Do not Cover” shall be marked with the symbol shown in Figure 701 Controlgear classified as “IC” shall be marked with the symbol shown in Figure 702.		
(7.102)	**7.102 Additional information to be supplied with the controlgear** “Do-not-cover” and “Non-IC” classified controlgear shall be supplied with instructions and diagrams showing all dimensions for safe installation and include, as appropriate, the following: (a) The minimum clearance distance from the top and sides of the controlgear to normally flammable building elements. (b) If the minimum clearance distances from each side of the controlgear are different, or there are different minimum clearance distances for various types of normally flammable building element or building insulation, then each minimum clearance distance shall be stated separately. (c) Where controlgear is required to be mounted on a specific surface or has additional installation requirements, for example, use in non-combustible enclosed space or to ensure adequate sealing to maintain its IP rating, the relevant information shall be supplied with the controlgear. NOTE Installation in a non-combustible enclosed space may include installation in a rebate in a concrete slab, ceiling or wall.		N/A
(7.103)	**7.103 Independent controlgear** For independent controlgear not supplied with, but intended for use with, a separate lamp or light source container or head, for example, a remote mounted floodlight, the instructions supplied shall specify the independent controlgear parameters for use by the luminaire assembler.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
(7.104)	**7.104 Location and durability of marking** The marking required by Clause 7.101 shall be a minimum size of 5 mm × 5 mm		N/A
(7.105)	**7.105 Compliance** Compliance with Clauses 7.101 to 7.104 is checked by inspection. (AS/NZS 61347.1:2016)		N/A
(15)	**Construction**		-
(15.101)	**15.101 Power factor correction capacitors** Power factor correction capacitors incorporated into controlgear shall be of a type to ensure that any capacitor failure results in a failsafe outcome (i.e. the capacitor type will fail in the open-circuit mode only and is protected against fire or shock hazard). These capacitors shall be not less than Type B capacitors with metal body and break action protection in accordance with IEC 61048 and AS/NZS 61049. A capacitor complying with ANCI/EIA-456-A shall comply with AS/NZS 61049 and IEC 61048:2006, excluding the endurance test (Clause 18.1.1). NOTE Capacitors of class P2 of IEC 60252 AC motor capacitors do not meet the safety requirements of a Type B capacitor. In addition capacitors shall have a minimum voltage rating of 250 V at temperature rating of 85 °C or 280 V at temperature rating of 100 °C. Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or for voltage dividing, shall comply with IEC 60384-14 (AS/NZS 61347.1:2016)		N/A
Appendix ZA	**THERMAL TEST PROCEDURE FOR INDEPENDENT CONTROLGEAR**		-
ZA 1 General	For the purposes of this Appendix, the requirements of Clause 12 of AS/NZS 60598.1 apply, with the following modifications and additions:	Built-in controlgear	P
	(a) Independent controlgear shall be energized at 0.94 or 1.06 times the rated voltage, whichever produces higher temperatures		N/A
	(b) The test is run until temperatures have stabilized or 8 h have elapsed		P

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Clause	Requirement + Test	Result - Remark	Verdict
	(c) The dimensions of the test box shall be a minimum of 450 mm wide × 450 mm long × 300 mm high and shall maintain a minimum horizontal distance of 75 mm from the sides and ends of the controlgear to the sides of the test box and the minimum vertical distance of 75 mm from the top of the controlgear to the underside of the test box top when placed in accordance to Clause ZA3.2		N/A
	(d)The internal surfaces shall be painted matt black		P
	Temperature measurements are conducted in accordance with Annex K of AS/NZS 60598.1 on the hottest points		P
ZA 2 Test Box	A test box, consisting of a mounting surface on top of which is a rectangular box with vertical sides and a top, shall be constructed in accordance with the following:		N/A
	(a)The mounting surface shall be made of 15 mm–20 mm thick porous wood fibre board.		N/A
	(b) The vertical sides and top of the test box shall be made of 15 mm–20 mm thick porous wood fibre board.		N/A
	(c) The dimensions of the test box shall be a minimum of 450 mm wide × 450 mm long × 300 mm high and shall maintain a minimum horizontal distance of 75 mm from the sides and ends of the controlgear to the sides of the test box and the minimum vertical distance of 75 mm from the top of the controlgear to the underside of the test box top when placed in accordance with Clause ZA3.2.		N/A
	(d) The internal surfaces shall be painted matt black.		N/A
	For the tests, the test box shall be supported or suspended in a draught-proof enclosure in accordance with AS/NZS 60598.1, Annex D.		N/A
	ZA3 CONTROLGEAR TEST PROCEDURE FOR "DO NOT COVER—ABNORMAL OPERATION" AND IC (ALL SITUATIONS)		N/A
ZA3.1	General This test procedure is for both 'Do not Cover—abnormal operation' and IC controlgear. It assesses the suitability of the control gear to abut normally flammable materials, as specified in the installation instructions, and be covered by insulation, inadvertently (do not cover—abnormal operation) or by intent (IC all situations).		N/A
ZA3.2	Test set-up		N/A
	The controlgear under test is placed in the centre of the test box as shown in Figure ZA1		N/A
	Thermal insulation is then added to the test box to completely fill the test box. The insulation is pushed around the controlgear to form a close fit to		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	the sides and top without compression		
	The type of thermal insulation is formed insulation where 200 mm is equivalent to an RI 4.0 classification in accordance with AS/NZS 4859.1 or as specified in AS/NZS 60598.1		N/A
	The test set-up shall have thermocouples attached to the controlgear (on accessible surfaces, in accordance with the specified classification and access probe), controlgear mounting surface, and any thermal insulation in the most unfavourable positions		N/A
	The test box shall have its top added and sealed (AS/NZS 61347.1:2016)		N/A
Appendix ZA Rule 1:2020	When testing to Appendix ZA of AS/NZS 61347.1, and so applying AS/NZS 60598.1 Clause 12.4.1 c), such testing shall be conducted at an ambient test temperature between 10 °C and 30 °C, referred to 25 °C, disregarding the t_a of the control gear?		P

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Clause	Requirement + Test	Result - Remark	Verdict
	AS/NZS 60598.1		P
(0)	**GENERAL TEST REQUIREMENTS**		-
(0.3)	More sections applicable ..... :	Yes ☐ No ☒ Section/s:	—
(0.5)	Components	(see Annex 1)	—
(0.7)	**Information for luminaire design in light sources standards**		—
1.2 (0.7.2)	Light source safety standard .....:		—
	Luminaire design in the light source safety standard		N/A
(2)	**CLASSIFICATION OF LUMINAIRES**		-
(2.2)	Type of protection .....:	Class II	P
(2.3)	Degree of protection .....:	IP20	—
(2.4)	Luminaire 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**		-
(3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
(3.3)	Additional information		P
	Language of instructions		P
(3.3.1)	Combination luminaires		N/A
(3.3.2)	Nominal frequency in Hz		P
(3.3.3)	Operating temperature		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

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Clause	Requirement + Test	Result - Remark	Verdict
(3.3.10)	Suitability for use indoors		P
(3.3.11)	Luminaires with remote control		N/A
1.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
1.5 (3.3.13)	Specifications of protective shields		N/A
1.5 (3.3.14)	Symbol for nature of supply		P
1.5 (3.3.15)	Rated current of socket outlet		N/A
1.5 (3.3.16)	Rough service luminaire		N/A
1.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
1.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
1.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
1.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
1.5 (3.3.21)	Non replaceable and non-user replaceable light sources information provided		N/A
1.5 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
1.5 (3.3.23)	Luminaire without controlgear provided with necessary information for selection of appropriate component		N/A
1.5 (3.3.24)	If not supplied with terminal block, information on the packaging		N/A
1.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P

(4)	**CONSTRUCTION**		-
(4.2)	Components replaceable without difficulty		N/A
(4.3)	Wireways smooth and free from sharp edges		N/A
(4.4)	**Lampholders**		-
(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

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Clause	Requirement + Test	Result - Remark	Verdict
(4.4.4)	Positioning		N/A
	- pressure test (N) .....:		—
	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) .....:		—
	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
(4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
(4.5)	**Starter holders**		-
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
(4.6)	**Terminal blocks**		**-**
	Tails		N/A
	Unsecured blocks		N/A
(4.7)	**Terminals and supply connections**		**-**
(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
(4.7.3.1)	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- mechanical test according to 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		N/A
(4.7.4)	Terminals other than supply connection		N/A
(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**		-
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		N/A
(4.9)	**Insulating lining and sleeves**		-
(4.9.1)	Retainment		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)	**Double or reinforced insulation**		**-**
(4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
(4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P
(4.10.3)	Retainment of insulation:		N/A
	- fixed		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
(4.10.4)	Protective impedance device		P
	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		P
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
(4.11)	**Electrical connections and current-carrying parts**		**-**
(4.11.1)	Contact pressure		P
(4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
(4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
(4.11.4)	Material of current-carrying parts		P
(4.11.5)	No contact to wood or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		N/A
(4.12)	**Screws and connections (mechanical) and glands**		-
(4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part .....:		N/A
	Torque test: torque (Nm); part .....:		N/A
	Torque test: torque (Nm); part .....:		N/A
(4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
(4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm).....:		N/A
	- lampholder; torque (Nm).....:		N/A
	- push-button switches; torque 0,8 Nm .....:		N/A
(4.12.5)	Screwed glands; force (Nm) .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
(4.13)	**Mechanical strength**		**-**
(4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....:		N/A
	- other parts; energy (Nm) .....:	0.5	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
(4.13.2)	Metal parts have adequate mechanical strength		N/A
(4.13.3)	Straight test finger		N/A
(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, fixings and means of adjusting**		-
(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) .....:		—
	Stress in conductors (N/mm²) .....:		N/A
	Mass (kg) of semi-luminaire .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Bending moment (Nm) of semi-luminaire .....:		N/A
(4.14.3)	Adjusting devices:		N/A
	- 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**		**-**
	- glow-wire test 650°C.....:	750 °C	P
	- spacing ≥30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		N/A
	- 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**		**-**
	No lamp control gear .....:	(compliance with Section 12)	N/A
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		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		N/A
	- external		N/A
	- fixed position		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- temperature marked lamp control gear		N/A
(4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
(4.17)	**Drain holes**		-
	Clearance at least 5 mm		N/A
(4.18)	**Resistance to corrosion**		-
(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**		-
(4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		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 not cause overheating or damage		N/A
(4.23)	Semi-luminaires comply Class II		N/A
(4.24)	**Photobiological hazards**		-
(4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
(4.24.2)	Retinal blue light hazard		N/A
	Class of risk group assessed according to IEC/TR 62778 .....:		—
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2...:		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778		N/A
(4.25)	**Mechanical hazard**		**-**
	No sharp point or edges		P
(4.26)	**Short-circuit protection**		N/A
(4.26.1)	Adequate means of uninsulated accessible SELV parts		N/A
(4.26.2)	Short-circuit test with test chain according 4.26.3		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
(4.27)	**Terminal blocks with integrated screwless earthing contacts**		-
	Test according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
(4.28)	**Fixing of thermal sensing control**		-
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A
	Max. temperature on adhesive material (°C) .....:		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
(4.29)	**Luminaires with non-replaceable light source**		**-**
	Not possible to replace light source		N/A
	Live part not accessible after parts have been opened by hand or tools		N/A
(4.30)	**Luminaires with non-user replaceable light source**		**-**

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Clause	Requirement + Test	Result - Remark	Verdict
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	Minimum two fixing means		N/A
(4.31)	**Insulation between circuits**		**-**
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
(4.31.1)	SELV circuits		P
	Used SELV source		P
	Voltage ≤ ELV		P
	Insulating of SELV circuits from LV supply		P
	Insulating of SELV circuits from other non SELV circuits		P
	Insulating of SELV circuits from FELV		N/A
	Insulating of SELV circuits from other SELV circuits		N/A
	SELV circuits insulated from accessible parts according Table X.1		P
	Plugs not able to enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
(4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of FELV circuits from LV supply		N/A
	FELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Socket-outlets does not have protective conductor contact		N/A
(4.31.3)	Other circuits		P
	Other circuits insulated from accessible parts according Table X.1		P
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
(4.32)	**Overvoltage protective devices**		**-**
	Comply with IEC 61643-11		N/A
	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A

(11)	**CREEPAGE DISTANCES AND CLEARANCES**		-
(11.2.1)	Impulse withstand category (Normal category II)	Category II ☒ Category III ☐	—
	Category III according Annex U		
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
(11.2.2)	Creepage distances for frequency up to 30 kHz	See report AS NZS 61347.2.13	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $\hat{U}_{OUT}$ and f_{UOUT} according IEC 61347-1, clause 7.1, item w		N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347		N/A
(11.2.3)	Clearances for frequency up to 30 kHz	See report AS NZS 61347.2.13	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P		N/A

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347		N/A
(7)	**PROVISION FOR EARTHING**		-
(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
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
(7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
1.8 (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
	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		N/A
	Length of earth conductor		N/A
(14)	**SCREW TERMINALS**		-
	Separately approved; component list	(see Annex 1)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Part of the luminaire		N/A

(15)	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**		-
	Separately approved; component list .....:	(see Annex 1)	P
	Part of the luminaire.....:		N/A

(5)	**EXTERNAL AND INTERNAL WIRING**		-
(5.2)	**Supply connection and external wiring**		**P**
(5.2.1)	Means of connection.....:	Connecting leads	P
	Outdoor luminaire has not PVC insulated external wiring if not class III or SELV ≤ 25 V a.c./60 V d.c. or protected from outdoor environment		N/A
(5.2.2)	Type of cable .....:		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		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		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
(5.2.9)	Locking of screwed bushings		N/A
(5.2.10)	Cord anchorage:		N/A
	- covering protected from abrasion		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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
	- function independent of electrical connection		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
	Wire ends tinned: no cold flow		N/A
(5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
(5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
(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**		**-**
(5.3.1)	Internal wiring of suitable size and type		P
	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 (mm) .....:		N/A
	Extra insulation added where necessary		N/A
(5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Cross-sectional area (mm²).....:	0.5 mm²	P
(5.3.1.3)	Double or reinforced insulation for class II		P
(5.3.1.4)	Conductors without insulation		N/A
(5.3.1.5)	SELV current-carrying parts		P
(5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
(5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		P
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
(5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
(5.4)	**Test to determine suitability of conductors having a reduced cross-sectional area**		N/A
	Under test the temperature of the luminaire wiring insulation not exceed the limits stated in Table 12.2		N/A
	No damage to luminaire wiring after test		N/A

(8)	**PROTECTION AGAINST ELECTRIC SHOCK**		-
1.11 (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, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		P
	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		N/A
	Double-ended high-pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
1.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
1.11 (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)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load (V) .....:		N/A
	- no-load voltage (V) .....:		N/A
	- touch current if applicable (mA) .....:		N/A
	One conductive part insulated if required		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage (V) .....:		N/A
	Class III luminaire only for connection to SELV		N/A
	Class III luminaire not provided with means for protective earthing		N/A
(8.2.4)	Portable luminaire has protection independent of supporting surface		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)	Luminaire other than below with capacitor > 0,5 μF not exceed 50 V 1 min after disconnection		P
	Portable luminaire with capacitor > 0,1 μF (0.25) not exceed 34 V 1 s after disconnection		N/A
	Other luminaires with capacitor > 0,1 μF (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A

(12)	**ENDURANCE TEST AND THERMAL TEST**	-
1.12 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 1.13	—
(12.2)	**Selection of lamps and ballasts**	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Lamp used according Annex B		—
	Controlgear if separate and not supplied		—
(12.3)	**Endurance test**		**P**
	a) mounting-position .....:	As normal used	—
	b) test temperature (°C) .....:	55 °C	—
	c) total duration (h) .....:	240	—
	d) supply voltage (V).....:	264	—
	d) if not equipped with controlgear, constant voltage/current (V) or (A) .....:		—
	e) luminaire ceases to operate		—
(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 report AS NZS 61347.2.13	P
(12.5)	**Thermal test (abnormal operation)**	See report AS NZS 61347.2.13	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) .....:		—
	- 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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
	Test method 12.7.1.1 or Annex W .....:		—
	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 W:		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
(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
(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

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Clause	Requirement + Test	Result - Remark	Verdict
	- thermal link .....:	Yes ☐ No ☐	—
	- 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

(9)	**RESISTANCE TO DUST AND MOISTURE**		-
(-)	If IP > IP 20 the order of tests as specified in clause 1.12		N/A
(9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP .....:	IP 20	—
	- mounting position during test .....:		—
	- fixing screws tightened; torque (Nm).....:		—
	- tests according to clauses .....:		—
	- electric strength test afterwards		N/A
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		N/A
	c.1) For luminaires without drain holes – no water entry		N/A
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight or pressure watertight luminaire		N/A
	e) no contact with live parts (IP 2X)		P
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A
	f) no trace of water on part of lamp requiring protection from splashing water		N/A
	g) no damage of protective shield or glass envelope		N/A
(9.3)	Humidity test 48 h		P

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Clause	Requirement + Test	Result - Remark	Verdict
(10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		-
(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		P
	- between current-carrying parts of different polarity:	> 100 MΩ	P
	- between current-carrying parts and mounting surface .....:	> 100 MΩ	P
	- between current-carrying parts and metal parts of the luminaire .....:	> 100 MΩ (insulation enclosure cover by metal foil)	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts .....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
	Other than SELV		P
	- between live parts of different polarity.....:	> 100 MΩ	P
	- between live parts and mounting surface.....:	> 100 MΩ	P
	- between live parts and metal parts.....:	> 100 MΩ (insulation enclosure cover by metal foil)	P
	- between live parts of different polarity through action of a switch .....:		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts .....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
(10.2.2)	Electric strength test		N/A
	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		P
	- between current-carrying parts of different polarity:	500 V	P

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Clause	Requirement + Test	Result - Remark	Verdict
	- between current-carrying parts and mounting surface .....:	500 V	P
	- between current-carrying parts and metal parts of the luminaire .....:	500 V (insulation enclosure cover by metal foil)	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts .....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
	Other than SELV		P
	- between live parts of different polarity.....:	1480 V	P
	- between live parts and mounting surface.....:	2960 V	P
	- between live parts and metal parts.....:	2960 V (insulation enclosure cover by metal foil)	P
	- between live parts of different polarity through action of a switch .....:		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts .....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
(10.3)	Touch current or protective conductor current (mA).:	Max. touch current: 0.02 mA	P

(13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		-
(13.2.1)	Ball-pressure test.....:	See report AS NZS 61347.2.13	P
(13.3.1)	Needle-flame test (10 s) .....:	See report AS NZS 61347.2.13	P
(13.3.2)	Glow-wire test (650°C).....:	See report AS NZS 61347.2.13	P
(13.4)	Proof tracking test (IEC 60112) .....:	See report AS NZS 61347.2.13	P

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 60598-2-1:2017

AUSTRALIA/NEW ZEALAND NATIONAL DIFFERENCES (Luminaires)

(Part 2.1 Particular requirements—Fixed general purpose luminaires)

Differences according to.....:	AS/NZS 60598.2.1:2014 +A1-2 AS/NZS 60598.1:2017 + A1:2017 + A2:2020
TRF template used: ..... :	IECEE OD-2020-F3:2022, Ed. 1.2
Attachment Form No. .....:	AU_NZ_ND_IEC60598_2_1F
Attachment Originator .....:	JAS-ANZ
Master Attachment .....:	2023-11-20

	National Differences		-
Appendix ZZ	Variations to IEC 60598-1 Ed 8.0 (2014) Normative		-
ZZ1	Scope This Appendix sets out variations between this Standard and IEC 60598-1:2014) and additional requirements to cover issues that have not been addressed by the International Standard (AS/NZS 60598.1:2017+A1-2)		P
	Scope This Appendix lists the normative variations to IEC 60598-2-1:1979 +A1”1987 (AS/NZS 60598.2.1:2014+A1-2)		P
ZZ2	Variations		P
(0.1)	**Scope and object**		-
(0.1)	Addition *Add* the following text at the end of Clause 0.1 Where the term “lamp” is used in this Standard, it is taken to include electric light sources. LED		P

Clause	Requirement + Test	Result - Remark	Verdict
	light sources are subject to the same test parameters as “other discharge lamps”. (AS/NZS 60598.1:2017+A1-2)		
	NOTE Portable rechargeable battery operated luminaires should comply with Annex B, ‘Appliances powered by rechargeable batteries’ of AS/NZS 60335.1, Household and similar electrical appliances—Safety, Part 1: General requirements (IEC 60335-1 ED. 5, MOD). In addition, portable, rechargeable, battery-operated luminaires with lithium ion batteries should have overvoltage protection (AS/NZS 60598.1:2017+A1-2)		N/A
(0.2)	**Normative references**		-
(0.2)	Addition *Add* the following normative references: IEC 61048, Auxilaries for lamps – Capacitors for use in tubular fluorescent and other discharge lamp circuits – General and safety requirements IEC 61049, Auxilaries for lamps – Capacitors for use in tubular fluorescent and other discharge lamp circuits – Performance requirements IEC 61995-1, Devices for the connection of luminaires for household and similar purposes – Part 1: General ISO 8124-1, Safety of toys – Part 1: Safety aspects related to mechanical and physical properties AS/NZS 3112, Approval and test specification—Plugs and socket-outlets AS/NZS 3120, Approval and test specification—Cord extension sockets AS/NZS 3133, Approval and test specification—Air-break switches AS/NZS 3191, Electric flexible cords AS/NZS 60335.2.29, Household and similar electrical appliances—Safety, Part 2.29: Particular requirements for battery chargers AS/NZS 60669, Switches for household and similar fixed electrical installations (series) AS/NZS 60695.2.11, Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products (IEC 60695-2-		P

Clause	Requirement + Test	Result - Remark	Verdict
	11:2000, MOD) AS/NZS 60695.11.5, Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance AS/NZS 60884.1, Plugs and socket-outlets for household and similar purposes, Part 1: General requirements AS/NZS 61058.1, Switches for appliances, Part 1: General requirements (IEC 61058-1, Ed.3.1 (2000), MOD) AS/NZS 61347, Lamp controlgear (series) AS/NZS 61558, Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V (series) (AS/NZS 60598.1:2017+A1-2)		
(0.4)	**General test requirements and verification**		-
(0.4.2)	Addition After the first paragraph, *insert* the following text: In Australia, for equipment, other than class III equipment, that is intended for connection to the supply mains and not marked with: — a rated voltage of at least 240 V for single-phase equipment or a rated voltage of at least 415 V for three-phase equipment; or — a rated voltage range that includes 240 V for single-phase equipment and 415 V for three-phase equipment, the rated voltage is equal to 240 V for single-phase equipment and 415 V for three-phase equipment, and the upper limit of the voltage range is equal to 240 V for single-phase equipment and 415 V for three-phase equipment. (AS/NZS 60598.1:2017+A1-2)		P
(0.5)	**Components of luminaires**		-
(0.5)	Addition *Insert* the following text as the first paragraph:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Throughout this document, where there is a relevant Australian/New Zealand Standard, it replaces the IEC Standard unless otherwise specified (AS/NZS 60598.1:2017+A1-2)		
(2)	**CLASSIFICATION OF LUMINAIRES**		P
(2.2)	Addition At the end of Clause 2.2, *insert* the following text: Class 0 luminaires are not permitted in Australia or New Zealand (AS/NZS 60598.1:2017+A1-2)		P
(3)	**MARKING**		P
(3.1)	Addition After the first paragraph, *insert* the following text: In Australia and New Zealand, instructions and other texts required by this Standard shall at least be written in English. Compliance is checked by inspection. (AS/NZS 60598.1:2017+A1-2)		P
(3.2)	Variation *Delete* the second paragraph beginning with 'Marking may be on ballast provided…'. (AS/NZS 60598.1:2017+A1-2)		P
(Table 3.1)	Variation 1..... Second column, second row, delete Item 3.2.21. 2..... Third column, second row, add the following new item:		P

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
	3.2.21 The relevant symbol for luminaires not suitable for covering with thermally insulating material (AS/NZS 60598.1:2017+A1-2)		
(3.2.3)	Variation *Delete* the text ‘, if other than 25 °C’.		P
(3.2.12)	Addition At the end of the Clause, *insert* the following text: In Australia, luminaires for household use and similar with supply cords that are not fitted with a plug shall be marked with a cord tag with the symbol for “must be installed by a licensed electrician”. (Refer to Figure ZZ1.) (AS/NZS 60598.1:2017+A1-2)		N/A
(3.2.23)	Addition At the end of the Clause, *insert* the following text: The additional information shall include the symbol "Do not stare at the operating light source" (see Figure 1) along with an explanation of the symbol. (AS/NZS 60598.1:2017+A1-2)		N/A
(3.3.7)	Variation *Delete* Clause 3.3.7 and *replace* with the following: **3.3.7** Luminaires for use with metal halide lamps shall be provided with instructions that state the substance of the following: To avoid potential unsafe lamp failure, the luminaire shall be switched off for at least 30 minutes at least once a week. In addition, the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	luminaire shall be operated: — complete with its protective shield; or — with a double jacketed lamp (AS/NZS 60598.1:2017+A1-2)		
(3.3.18)	Deletion *Delete* the text ‘, i.e. for indoor use only’. (AS/NZS 60598.1:2017+A1-2)		P
(3.3.19)	Deletion *Delete* the text and replace with the Note: Note: In Australia and New Zealand, there is No allowance for a protective conductor current greater than 10mA. (AS/NZS 60598.1:2017+A1-2)		P
(3.3.21)	Deletion *Delete* the text ‘Caution, risk of electric shock’ and the symbol. (AS/NZS 60598.1:2017+A1-2)		P
6 (3)	LED luminaires with G5 or G13 lampholders shall be marked with the following warning: **WARNING: NOT FOR USE WITH ANY FLUORESCENT LAMP—FOR USE ONLY WITH TYPE A LED LAMPS** The warning label shall be durable and the font size shall be a minimum of 5 mm for letters and numbers and 5 mm for symbols and shall be visible during lamp replacement (AS/NZS60598.2.1:2014+A2)		N/A
4	**CONSTRUCTION**		-
(4.7.2)	Variation *Delete* the first paragraph and *replace* with the		P

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Clause	Requirement + Test	Result - Remark	Verdict
	following: 4.7.2 Terminals shall be located or shielded in such a way that, if a wire of a stranded conductor escapes from a terminal when the conductors are fitted, there is no risk of contact between live parts and metal parts that can be touched with the standard test finger, nor shall it be possible to touch a live free wire with the standard test finger when the luminaire is fully assembled for use or open for the replacement of replaceable light sources or starters. (AS/NZS 60598.1:2017+A1-2)		
(4.8)	Variation After the third paragraph, *insert* the following text: Switches shall comply with AS/NZS 3133, the AS/NZS 60669 series or AS/NZS 61058.1. Switches that indicate an off position shall have contacts with an air break and comply with AS/NZS 3133, AS/NZS 60669.1 or AS/NZS 61058.1.		N/A
	Fourth paragraph, *delete* the text 'IEC 61058-1' and replace with 'AS/NZS 60669.2.1 or IEC 61058-1 classified for 10,000 operating cycles'. (AS/NZS 60598.1:2017+A1-2)		N/A
(4.10.4)	Variation First paragraph, *delete* the last sentence and replace with the following: If the working voltage does not exceed the rated voltage of the capacitor, accessible conductive parts separated from live parts by double or reinforced insulation, as above, may be bridged by a single Y1 capacitor with qualification approval as specified in IEC 60384-14.		P

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Clause	Requirement + Test	Result - Remark	Verdict
	(AS/NZS 60598.1:2017+A1-2)		
(4.14.6)	After the first paragraph, insert the following text: A fixed socket-outlet complying with AS/NZS 3112 or AS/NZS 60884.1 is used for the following test. (AS/NZS 60598.1:2017+A1-2)		N/A
(4.32)	Delete the text and replace with the following:		N/A
	4.32.1 General To limit the effects of lightning surges and other transient overvoltages, overvoltage protective devices may be used in luminaires and they can be either Surge protective devices (SPDs) or surge protective components (SPCs).		N/A
	4.32.2 Surge protective devices (SPDs) SPDs shall comply with IEC 61643-11. SPDs that are external to controlgear and connected to earth shall be used only in fixed luminaires and shall be connected only to a protective earth		N/A
	4.32.3 Surge protective components (SPCs) SPCs that are external to controlgear shall comply with the requirements of AS/NZS 3100 for varistors. (AS/NZS 60598.1:2017+A1-2)		N/A
7(4)	Addition LED luminaires or new luminaires designed for T8 to T5 converters with G5 and G13 lampholders shall include a fuse to protect a fluorescent lamp that is inadvertently installed. Each fuse shall— be of the 250 V HBC type; have a 2 A max. quick-acting type rating; and be used to protect a maximum of two lamps. (AS/NZS 60598.2.1:2014 +A2)		N/A
(5.2.1)	Variation 1. *Delete* the first paragraph and *replace* with		P

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Clause	Requirement + Test	Result - Remark	Verdict
	the following: Luminaires shall be provided with only one of the following means of connection and isolation to the supply. Fixed luminaires: — device for the connection of luminaires; — terminals; — plug for engagement with socket-outlets; — connecting lead (tails); in accordance with Clause 4.6 requirements; — supply cord — supply cord and plug; — adapter for engagement with supply tracks; — appliance inlet; — installation coupler; — luminaire coupler; Portable luminaires: — supply cord with plug; — appliance inlet. — inlet plug complying with AS/NZS 3120. Track-mounted luminaires: — adaptor; — ..... connector.		
	Delete the second and third paragraph.		N/A
	3. *After* Note 3, *insert* the following text: In Australia, non-portable luminaires with a supply cord shall be fitted with a plug complying with AS/NZS 3112 or a coupler complying with its standard, except where		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	the luminaire has markings and instructions that comply with Clause 3.2.12, in which case, a plug or coupler is not required. However, for other than portable luminaires a plug is not required if the luminaire has markings and instructions in accordance with Clause 3.2.12. The plug portion of a luminaire with integral pins shall comply with the relevant requirements of AS/NZS 3112. NOTE 4 PVC-insulated connection cords should not be used with outdoor luminaires in cold alpine locations. (AS/NZS 60598.1:2017+A1-2)		
(5.2.2)	Variation 1. *Delete* the first paragraph and *replace* with the following: Supply cords used as a means of connection to the supply, when supplied by the luminaire manufacturer, shall be at least equal in their mechanical and electrical properties to those specified in IEC 60227 and IEC 60245, as indicated in Table 5.1, or AS/NZS 3191, and shall be capable of withstanding, without deterioration, the highest temperature to which they may be exposed under normal conditions of use.		N/A
	2. .....*Delete* the third paragraph and *replace* with the following: To provide adequate mechanical strength, the nominal cross-sectional area of the conductors shall be not less than: — 0,75 mm^2; — ..... 1, 0 mm^2 for portable rough service luminaires. (AS/NZS 60598.1:2017+A1-2)		N/A
Table 5.1	Variation *Delete* Table 5.1 and replace with the following:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Table 5.1 — Supply cord		

Luminaire	**Rubber**	**PVC**	**No Insulation**
Ordinary class 1 luminaires	60245 IEC 51 [c]	60227 IEC 52 [c]	
Ordinary class II luminaires	60245 IEC 53 [c]	60227 IEC 52 [c]	
Luminaires which are other than ordinary class I and II	60245 IEC 57 [c]	60227 IEC 53 [c]	
Portable rough service luminaires	60245 IEC 66 [c]		
Class III or with SELV circuits luminaires (up to 25 V a.c./60 V d.c.)			Un-insulated conductor [b]
Class III or with SELV circuits luminaires (above 25 V a.c./60 V d.c.), including 50 V a.c./120 V d.c.	Unsheathed basic insulated conductor		

a.For indoor use only.
b. AS/NZS 3000 may restrict the use of un-insulated conductors in certain special installations.
c For supply voltages greater than 250 V, higher voltage grade cables and cords than those given in the above table may be necessary

(AS/NZS 60598.1:2017+A1-2)

(5.2.16)	Addition *At the end of the Clause, insert the following text:* Class II luminaires for fixed	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	wiring incorporating an appliance coupler shall not have means to allow further luminaires to be connected by cascading including connectionby looping-in. Luminaire couplers incorporated with the luminaire shall comply with IEC 61995-1. Luminaires incorporating installation couplers may have means to allow further luminaires to be connected by cascading provided the through wiring is rated for the current rating of the installation coupler. (AS/NZS 60598.1:2017+A1-2)		
(5.2.18)	Variation *Delete* Clause 5.2.18 and *replace* with the following: **5.2.18** All portable luminaires with a supply cord shall be fitted with a plug complying with AS/NZS 3112. Other luminaires with a supply cord shall be fitted with a plug complying with AS/NZS 3112, unless they have the warning specified by Clause 3.2.12. (AS/NZS 60598.1:2017+A1-2)		N/A
(5.3.1)	Variation Delete the third paragraph and replace with the following: Internal wires coloured green, yellow or green/yellow combination shall be used for making protective earth connections only. Functional earth connections shall not be made by wires coloured green, yellow or green/yellow combination. NOTE 101 Internal wires of other colours are not precluded from making protective earthing connections.		N/A
(5.3.1.3)	*Variation* *Delete Clause and replace with the following:* *In class II luminaires, where the internal wiring has a live conductor and the wiring insulation may touch accessible metal parts under normal operating conditions, the insulation, at least at the places of contact, shall comply with the requirements for double or reinforced*		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	insulation, e.g. by applying sheathed cables or sleeves. (AS/NZS 60598.1:2017+A1-2)		
(7)	**PROVISION OF EARTHING**		-
(7.2.11)	Variation *Delete* the third paragraph and *replace* with the following: All conductors, whether internal or external, coloured green, yellow or green/yellow combination, shall only be connected to an earthing terminal (AS/NZS 60598.1:2017+A1-2)		N/A
(8)	**PROTECTION AGAINST ELECTRIC SHOCK**		-
(8.2.1)	Variation Variation *Delete* the first two paragraphs including Note 1 and *replace* with the following: Luminaires shall be so constructed that their live parts and basic insulation are not accessible when the luminaire has been installed and wired as in normal use. Live parts shall not be accessible when the luminaire is opened as necessary for user cleaning or maintenance, or for replacement of lamps, replaceable light sources or (replaceable) starters, even if the operation cannot be achieved by hand. NOTE 1 Examples of parts with basic insulation are cables intended for internal wiring, controlgear for building-in, etc. This does not apply to the non-current-carrying parts of lamp caps that comply with the relevant IEC safety standard.		P
	Delete the ninth paragraph beginning with 'Covers in fixed luminaires that cannot be removed…'		P

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Clause	Requirement + Test	Result - Remark	Verdict
	And *replace* with “Covers that can be removed by hand shall be removed” (AS/NZS60598.1:2017)		
(9)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		-
(9.2)	After Note 1, insert the following new Note: NOTE 101 A designation of IPX7 or IPX8 is considered unsuitable for exposure to water jets (designated by IPX5 or IPX6) and may not comply with requirements for second numeral 5 or 6 unless it is dual coded. (AS/NZS60598.1:2017)		N/A
14(9)	The provisions of Section 9 of AS/NZS 60598.1 apply. For luminaires with an IP classification greater than IP20 the order of the tests specified in Section 9 of AS/NZS 60598.1 shall be as specified in Clause 13 of this Standard (AS/NZS 60598.2.1:2014+A2)		N/A
(10.2)	*Delete* the fourth paragraph and *replace* with the following: During these tests, the following components shall be disconnected, so that the test voltages are applied to the insulation of the components, but not to the capacitive, or inductive or other functional elements of these components, as appropriate: (a) Shunt-connected capacitors. (b) Capacitors between live parts and the body. (c) Protective impedance device. (d) Chokes or transformers connected between live parts. (e) Overvoltage protective devices in accordance with 4.32 of this Standard.		P

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Clause	Requirement + Test	Result - Remark	Verdict
	(f) Controlgear that conforms with the relevant requirements of IEC 61347 series.		
	Delete the seventh paragraph which reads: For fixed Class 1 luminaires, overvoltage protective devices that comply with IEC 61643-11 shall be disconnected from the circuit.		N/A
(Table 10.3)	Deletion *Delete* the second row beginning with 'Class I luminaires rated up to and including 16 A…'.		N/A
	First column, third row, *delete* the word 'Metal'. (AS/NZS60598.1:2017)		N/A
(12)	**ENDURANCE TEST AND THERMAL TEST**		-
(Table 12.1)	First column, first row, *delete* the text— 'Case (of capacitor, starting device, electronic ballast or convertor, etc.)' and replace with the following: 'Case (of control gear, capacitor, starting device, electronic ballast or convertor, etc.)'		P
	Addition *Add* the following new Note after Table 12.1 NOTE 101 Luminaire manufacturers should consider the maximum ambient air temperature in the vicinity of components such as starting devices and electronic ballasts or converters. Component performance specifications advise manufacturers to mark or supply life data as maximum ambient air temperature based on 50,000 h. This t-life is often marked as ta and is the temperature of the air in the vicinity of the component and is not related to the luminaire ta. As such, luminaire manufacturers should measure air temperature in the vicinity of such components, within the luminaire, as even those complying with their tc point measurements can still fail prematurely if t-life is exceeded. (AS/NZS 60598.1:2017+A1-2)		N/A
13 (12)	**ENDURANCE TESTS AND THERMAL TESTS** The provisions of Section 12 of AS/NZS 60598.1 apply. Luminaires with an IP classification greater		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	than IP20 shall be subjected to the relevant tests of Clauses 12.4, 12.5 and 12.6 of Section 12 of AS/NZS 60598.1 after the test(s) of Clause 9.2 but before the test(s) of Clause 9.3 of Section 9 of AS/NZS 60598.1 specified in Clause 14 of this Standard. (AS/NZS 60598.2.1:2014+A2)		
(13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		-
(13.3)	Variation *Delete* Clause 13.3 and *replace* with the following: **13.3 Resistance to flame and ignition** Parts of non-metallic material shall be resistant to flame and ignition. For materials other than ceramic, compliance is checked by the tests of 13.3.1 and 13.3.2, and 13.3.3 as appropriate. This requirement does not apply to decorative trims, knobs, wiring insulation and other parts not likely to be ignited or to propagate flames from inside the luminaire. This Clause applies to all parts, including components, even if they have been tested to their own IEC or equivalent standard..		P
	13.3.1 Parts of non-metallic material supporting connections that could become an ignition source, and parts of non-metallic material within a distance of 3 mm of such connections, shall withstand the glow wire test. Welded connections, soldered connections on printed circuit boards and other connections carrying less than 0.2 A during normal operation are not considered to be an ignition source. The test apparatus, test procedure and criteria shall be those specified in AS/NZS 60695.2.11.		P

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Clause	Requirement + Test	Result - Remark	Verdict
	The glow wire is heated to 750 °C and applied to one sample for 30s		
	13.3.2 All other parts of non-metallic material which do not support connections that could become an ignition source, but provide protection against electric shock or maintain creepage and clearances, shall withstand the glow wire test. The test apparatus, test procedure and criteria shall be those specified in AS/NZS 60695.2.11. The glow wire is heated to 650 °C and applied to one test sample for 30 s.		P
	13.3.3 During the application of the glow wire test of Clause 13.3.1 and 13.3.2, if a flame is produced that persists for longer than 2 s, the luminaire is further tested as follows: The needle-flame test of AS/NZS 60695.11.5 is applied to non-metallic parts that encroach within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm above the point of application of the glow wire. The needle-flame is applied to one test sample for 30 s. Parts shielded by a barrier that meets the needle-flame test of AS/NZS 60695.11.5 are not tested**.** The needle-flame test is not carried out on parts that are made of material classified as V-0 or V-1 according to IEC 60695-11-10. The sample of material submitted to the test of IEC 60695-11-10 shall be no thicker than the relevant part. *NOTE This requires the needle flame to be applied to all parts likely to be impinged upon by the glow-wire flame within the hypothetical envelope of a vertical cylinder positioned above the point of application of the glow-wire. This applies to all parts unless there is a barrier that passes the needle-flame test and is within the cylinder and would protect the part from the*		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	glow-wire flame.		
	Special national conditions (if any)		-
(0.5.101)	After Clause 0.5.4, add new Clause 0.5.101 as follows: **0.5.101 Capacitors** Capacitors shall be of a type to ensure that any capacitor failure results in a failsafe outcome (i.e. the capacitor type will fail in the open-circuit mode only and is protected against fire or shock hazard). Capacitors (other than those incorporated in control gear that comply with the relevant standard) shall comply with one of the following:		N/A
	Capacitors likely to be permanently subjected to the supply voltage, used for radio interference suppression or for voltage dividing shall comply with IEC 60384-14		N/A
	• ..... Other capacitors shall be not less than Type B capacitors with metal body and break action protection in accordance with IEC 61048 and IEC 61049. A capacitor complying with EIA-456-A, Metallized Film Dielectric Capacitors for Alternating Current Applications, shall comply with IEC 61049 and IEC 61048:2006 excluding the endurance test of 18.1.1. NOTE Capacitors of Class S2 (formerly referred to as P2) of IEC 60252 (all parts) do not meet the safety requirements of a Type B capacitor. (AS/NZS 60698.1:2017)		N/A
(0.5.102)	After Clause 0.5.101, add new Clause 0.5.102 as follows:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	0.5.102 Control gear Power supplies shall comply with the relevant part 2 of the AS/NZS 61558 series		
	Control gear shall comply with the relevant part 2 of the AS/NZS 61347 series		P
	Battery chargers used for lighting other than emergency lighting shall comply with AS/NZS 60335.2.29.		N/A
	Sensor switches and similar control circuits, including those incorporated in other equipment, are considered electronic switches (see Clause 4.8). (AS/NZS 60598.1:2017+A1-2)		N/A
(1.2.101)	After Clause 1.2.91, add the following definitions: **1.2.101** **installation coupler** connecting device consisting of an installation female connector and an installation male connector provided with retaining means for permanent connection not intended to be engaged or disengaged under load nor to be engaged or disengaged other than during first installation, during maintenance of the wiring system or during re-configuration of the wiring system **1.2.103** **installation male connector** load side portion of an installation coupler which contains the male contacts **1.2.104** **installation female connector**		N/A

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
	supply side portion of an installation coupler which contains the female contacts **1.2.105** **installation coupler system** family of installation couplers consisting of one or more installation female connectors compatible by mechanical coding features with one or more installation male connectors, with the same ratings produced according to the specification of one manufacturer (AS/NZS 61058.1:2017)		
(3.3.101)	Addition After Clause 3.3.22, *add* new Clauses 3.3.101 and 3.3.102 as follows: 3.3.101 The instructions shall contain details of the components in the luminaire that require replacement as part of a maintenance program.		N/A
(3.3.102)	3.3.102 The instructions for luminaires, including for remotes or other accessories containing coin/button cell batteries and batteries designated R1, shall include the safety warnings below. Equipment containing one or more coin/button cell/R1 batteries shall have the safety warnings in the instructions accompanying the equipment. The safety warnings are not required where these batteries are not intended to be replaced or are only accessible after damaging the equipment. The safety warnings shall be as follows:		N/A

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
	– CAUTION: Do not ingest battery—Chemical burn hazard [or equivalent wording]. – [The remote control supplied with] this product contains a coin/button cell battery. If the coin/button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death. – Keep new and used batteries away from children. – If the battery compartment does not close securely, stop using the product and keep it away from children. – If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention. NOTE 1 Coin/button cell batteries are small, single cell devices having a diameter greater than their height. NOTE 2 Battery designations are specified in IEC 60086-2. (AS/NZS 60598.1:2017+A1-2)		N/A
(3.3.103)	After Clause 3.3.102, *add* new Clause 3.3.103, as follows: Luminaires intended to be fixed to the wall and are supplied with a plug and a cord shall be supplied with a cord tag with the substance of the following wording: **WARNING: THE FLEXIBLE WIRING CONNECTED TO THIS LUMINAIRE SHALL BE EFFECTIVELY FIXED TO THE WALL.**		N/A
(4.101)	Addition After Clause 4.32, add new Clauses as follows: **4.101.1 Small batteries** Batteries that fit wholly within the small parts		N/A

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
	cylinder as specified in Clause 5.2 of ISO 8124-1 shall not be removable without the aid of a tool. Luminaires intended for children under the age of three, or parts of such luminaries that contain batteries, shall not fit wholly within the small parts cylinder as specified in Clause 5.2 of ISO 8124-1. For luminaires or parts of luminaires containing batteries that fit wholly within the small parts cylinder as specified in Clause 5.2 of ISO 8124-1, the batteries shall not be accessible without the aid of a tool.		
	Button cells and batteries designated R1 shall not be removable without the aid of a **tool** unless the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously. Refer to AS/NZS 60335.1:2011 Clause 22.54. NOTE Batteries are specified in IEC 60086-2.		N/A
	Compliance is checked by inspection and by the following test. A force is applied without jerks for 10 s in the most unfavourable direction to parts likely to be weak. The force is as follows: – .....push force, 50 N; – .....pull force; 30 N; – .....if the shape of the part is such that the fingertips cannot easily slip off, 50 N; – .....if the projection of the part that is gripped is less than 10 mm in the direction of removal, 30 N. The push force is applied by test probe 11 of		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	IEC 61032. The pull force is applied by a suitable means, such as a suction cup, so that the test results are not affected. While the force is being applied, the test fingernail of Figure 7 of AS/NZS 60335.1 is inserted in any aperture or joint with a force of 10 N. The fingernail is then slid sideways with a force of 10 N but is not twisted or used as a lever.		
	If the shape of the part is such that an axial pull is unlikely, the pull force is not applied but the test fingernail is inserted in any aperture or joint with a force of 10 N and is then pulled for 10 s by means of the loop with a force of 30 N in the direction of removal. If the part is likely to be twisted, the following torque is applied at the same time as the pull or push force: – .... 2 Nm, for major dimensions up to 50 mm. – ..... 4 Nm, for major dimensions over 50 mm. This torque is also applied when the test fingernail is pulled by means of the loop. If the projection of the part that is gripped is less than 10 mm, the torque is reduced by 50 %. NOTE The types and dimensions of batteries are specified in IEC 60086-2. (AS/NZS 60598.1:2017+A1-2)		N/A
(4.101.2)	Addition **4.101.2 Battery compartment fasteners** If screws or similar fasteners are used to secure a door or cover providing access to the battery compartment, the screw or similar fastener shall be captive to ensure that it remains with the door, cover or equipment. Compliance is checked by inspection and by the		N/A

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
	following test. A force of 20 N is applied to the screw or similar fastener without jerks for a duration of 10 s in any direction. (AS/NZS 60598.1:2017+A1-2)		
	Figure ZZ1  *(AS/NZS 60598.1:2013)* **Figure ZZ1 — Must be installed by a licensed electrician**		N/A

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
15 (L.6, L.7)	**TABLE: TRANSFORMER HEATING**		P
	Type reference ..... :	SR-WP-20W580	—
	Lamp used..... :	electronic load (DC33 V, 0.598 A)	—
	Mounting position of luminaire..... :	on a dull black painted plywood	—
	Supply wattage (W) ..... :	22.5	—
	Supply current (A)..... :	0.092	—
	Temperatures in test 1 - 4 below are corrected for ta (°C) ..... :	45	—
	- abnormal operating mode ..... : - double the LED modules or equivalent load	Protected (in series to the output terminals)	—
15.2 (L.6)	- test 1: rated voltage ..... :	-	—
	- test 2: 1.06 times rated voltage ..... :	1.06×240 V 50 and 60 Hz Chose the max. value recorded	—
15.3 (L.7)	- test 3: short-circuit, 0.9 times or 1.1 times rated supply voltage..... :	Protected	—
	- test 4: overload, 0.9 times or 1.1 times rated supply voltage..... :	1.1× 240 V	—

Temperature measurements (°C)

Part	Ambient	15.2 (L.6) – normal			15.3 (L.7) – abnormal		
		test 1	test 2	limit	test 3	test 4	limit
LR1 inductor	45	--	72.7	120	--	--	--
X capacitor	45	--	66.9	110	--	--	--
Varistor (VR1)	45	--	68.7	85	--	--	--
L1 inductor	45	--	69.7	120	--	--	--
Y capacitor	45	--	77.2	125	--	--	--
Transformer primary winding	45	--	84.2	120	--	90.9	225
Transformer secondary	45	--	83.6	120	--	90.2	225
Transformer bobbin	45	--	82.9	cl.18.1	--	--	--
PCB	45	--	88.9	cl.18.1	--	--	--
Electrolytic capacitor	45	--	78.0	105	--	--	--
Input wire	45	--	62.9	90	--	--	--

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict

Output wire	45	--	60.3	80	--	--	--
Plastic enclosure inner	45	--	77.2	cl.18.1	--	--	--
tc	45	--	76.5	80	--	81.4	105
Mounting surface	45	--	66.6	90	--	70.3	105

AS/NZS 61347.1 ZA3	**Abnormal operation**				N/A
Temperature measurements (°C)					
Part	Ambient	**normal**			**ZA3 – abnormal**
		test 1	test 2	limit	test 3	test 4	limit
--	25	--	--	--	--	--	--
--	25	--	--	--	--	--	--
Supplementary information: *no scorching, deformation and melting.*							

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
15 (L.6, L.7)	**TABLE: TRANSFORMER HEATING**		P
	Type reference ..... :	SR-WP-100W280	—
	Lamp used..... :	electronic load (DC33 V, 0.282 A)	—
	Mounting position of luminaire..... :	on a dull black painted plywood	—
	Supply wattage (W) ..... :	11.2	—
	Supply current (A)..... :	0.05	—
	Temperatures in test 1 - 4 below are corrected for ta (°C) ..... :	45	—
	- abnormal operating mode ..... : - double the LED modules or equivalent load	Protected (in series to the output terminals)	—
15.2 (L.6)	- test 1: rated voltage ..... :	-	—
	- test 2: 1.06 times rated voltage ..... :	1.06×240 V 50 and 60 Hz Chose the max. value recorded	—
15.3 (L.7)	- test 3: short-circuit, 0.9 times or 1.1 times rated supply voltage..... :	Protected	—
	- test 4: overload, 0.9 times or 1.1 times rated supply voltage..... :	1.1× 240 V	—

Temperature measurements (°C)

Part	Ambient	15.2 (L.6) – normal			15.3 (L.7) – abnormal		
		test 1	test 2	limit	test 3	test 4	limit
Output wire	45	--	70.2	80.0	--	--	--
Input wire	45	--	73.1	90.0	--	--	--
Varistor (VR1)	45	--	80.6	85.0	--	--	--
X capacitor	45	--	81.5	110.0	--	--	--
L1 inductor	45	--	87.4	120.0	--	--	--
Y capacitor	45	--	90.6	125.0	--	--	--
Electrolytic capacitor	45	--	90.1	105.0	--	--	--
Transformer secondary winding	45	--	97.6	120.0	--	106.2	225
Transformer bobbin	45	--	96.1	cl.18.1	--	--	--
Transformer primary winding	45	--	95.4	120.0	--	103.2	225
PCB	45	--	98.3	cl.18.1	--	--	--

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict

Plastic enclosure	45	--	86.7	cl.18.1	--	--	--
tc	45	--	78.8	80.0	--	87.6	105
Mounting surface	45	--	74.4	90.0	--	79.0	105

AS/NZS 61347.1 ZA3	**Abnormal operation**				N/A
Temperature measurements (°C)					
Part	Ambient	**normal**			**ZA3 – abnormal**
		test 1	test 2	limit	test 3	test 4	limit
--	25	--	--	--	--	--	--
--	25	--	--	--	--	--	--
Supplementary information: *no scorching, deformation and melting.*							

Attachment No.2 IEC61347_2_13G - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
15 (L.6, L.7)	**TABLE: TRANSFORMER HEATING**		P
	Type reference ..... :	SR-WP-6W230	—
	Lamp used..... :	electronic load (DC25 V, 0.2 A)	—
	Mounting position of luminaire..... :	on a dull black painted plywood	—
	Supply wattage (W) ..... :	6.36	—
	Supply current (A)..... :	0.027	—
	Temperatures in test 1 - 4 below are corrected for ta (°C) ..... :	45	—
	- abnormal operating mode ..... : - double the LED modules or equivalent load	Protected (in series to the output terminals)	—
15.2 (L.6)	- test 1: rated voltage ..... :	-	—
	- test 2: 1.06 times rated voltage ..... :	1.06×240 V 50 and 60 Hz Chose the max. value recorded	—
15.3 (L.7)	- test 3: short-circuit, 0.9 times or 1.1 times rated supply voltage..... :	Protected	—
	- test 4: overload, 0.9 times or 1.1 times rated supply voltage..... :	1.1× 240 V	—

Temperature measurements (°C)

Part	Ambient	15.2 (L.6) – normal			15.3 (L.7) – abnormal		
		test 1	test 2	limit	test 3	test 4	limit
Input wire	45	--	63.6	90.0	--	--	--
Varistor	45	--	60.4	85.0	--	--	--
X capacitor	45	--	63.6	110.0	--	--	--
Transformer primary winding	45	--	76.2	120.0	--	83.1	225
Transformer secondary winding	45	--	76.8	120.0	--	83.4	225
Transformer bobbin	45	--	74.6	cl.18.1	--	--	--
Electrolytic	45	--	74.1	105.0	--	--	--
Y capacitor	45	--	73.4	125.0	--	--	--
PCB	45	--	75.5	cl.18.1	--	--	--
SMD Y capacitor	45	--	74.2	125.0	--	--	--
Output wire	45	--	56.2	80.0	--	--	--

Attachment No.2 IEC61347_2_13G - ATTACHMENT

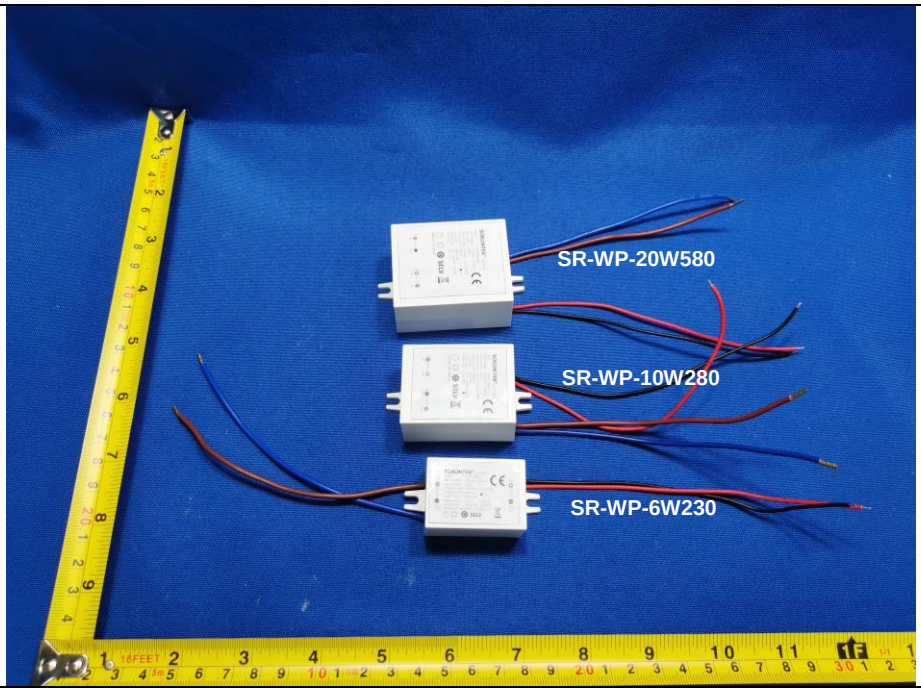
Clause	Requirement + Test	Result - Remark	Verdict

Plastic enclosure inner	45	--	76.2	cl.18.1	--	--	--
tc	45	--	72.5	80.0	--	80.5	105
Mounting surface	45	--	68.3	90.0	--	71.9	105

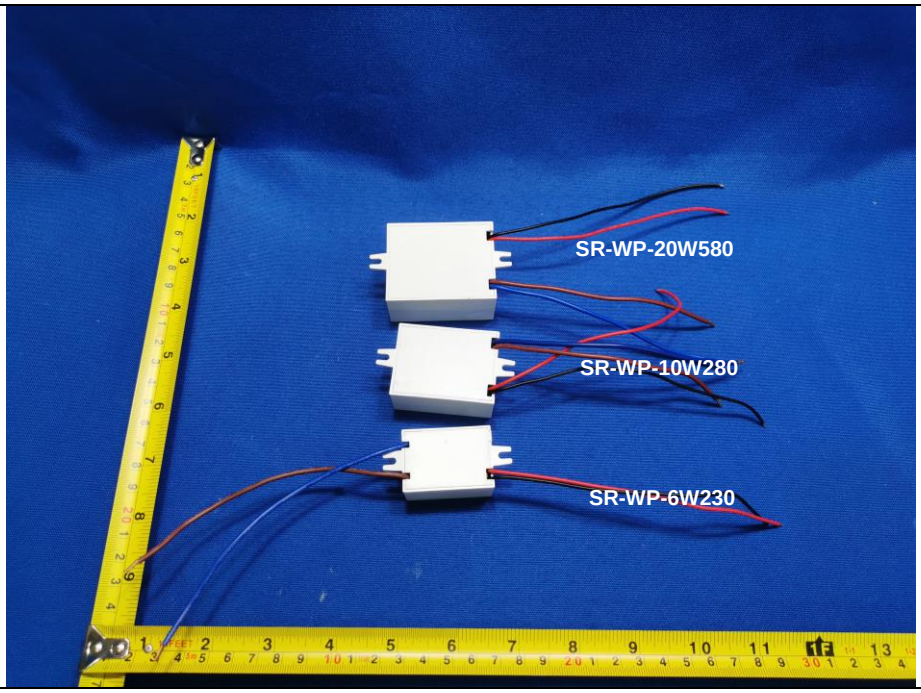
AS/NZS 61347.1 ZA3	**Abnormal operation**				N/A
Temperature measurements (°C)					
Part	Ambient	**normal**			**ZA3 – abnormal**
		test 1	test 2	limit	test 3	test 4	limit
--	25	--	--	--	--	--	--
--	25	--	--	--	--	--	--
Supplementary information: *no scorching, deformation and melting.*							

Attachment No.3 **Product Photos**

Details of: Fig 1. Front view

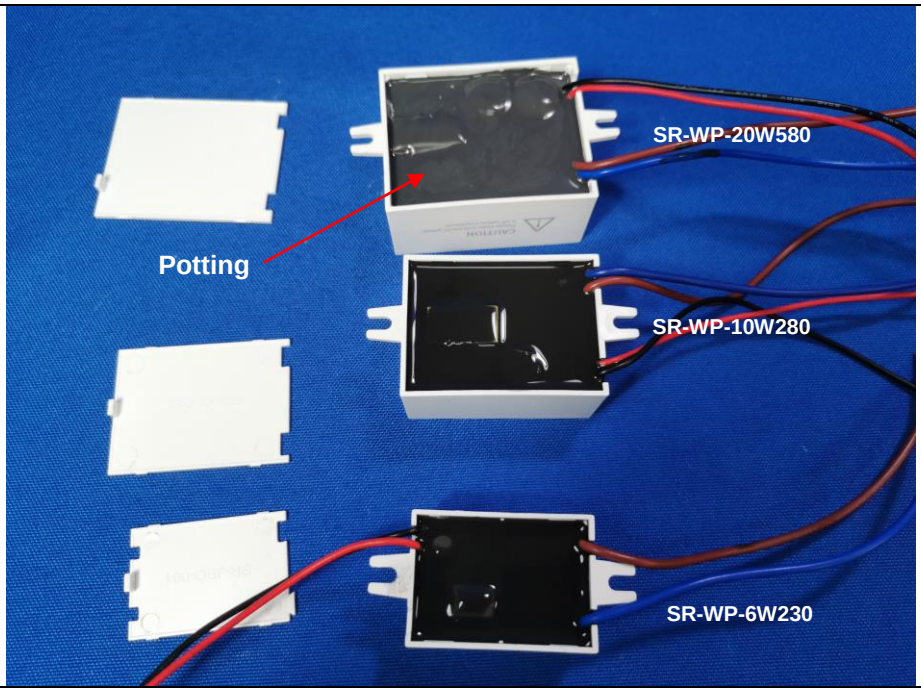


Details of: Fig 2. Back view

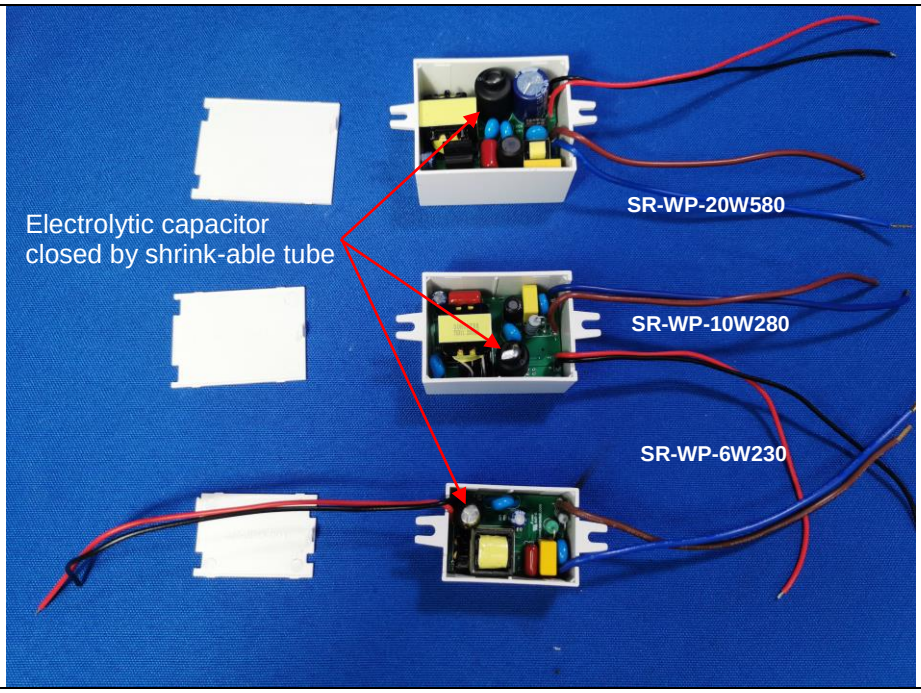


Attachment No.3 **Product Photos**

Details of: Fig 3. Internal view

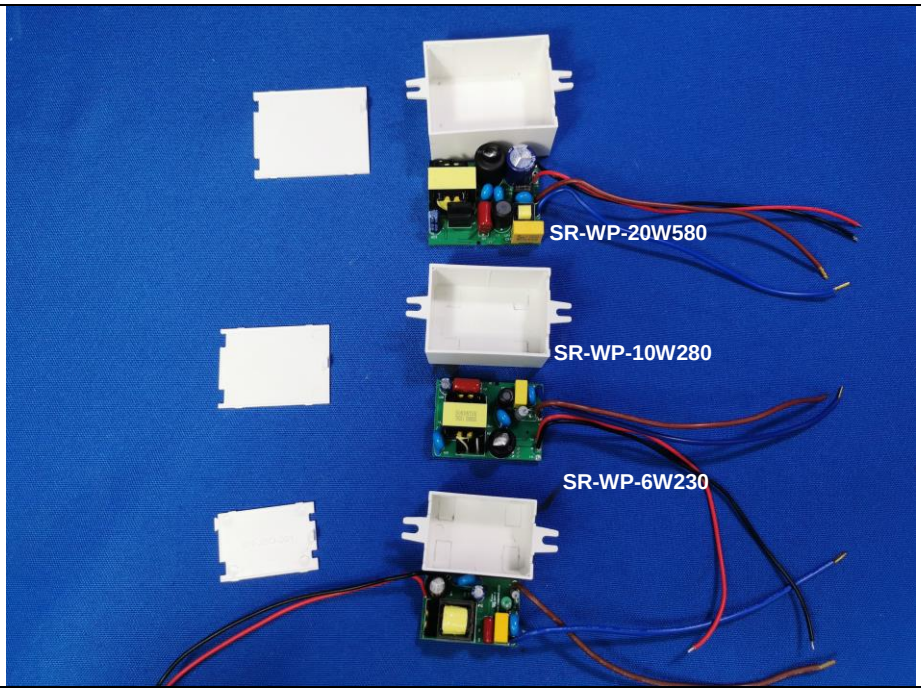


Details of: Fig 4. Internal view before potting

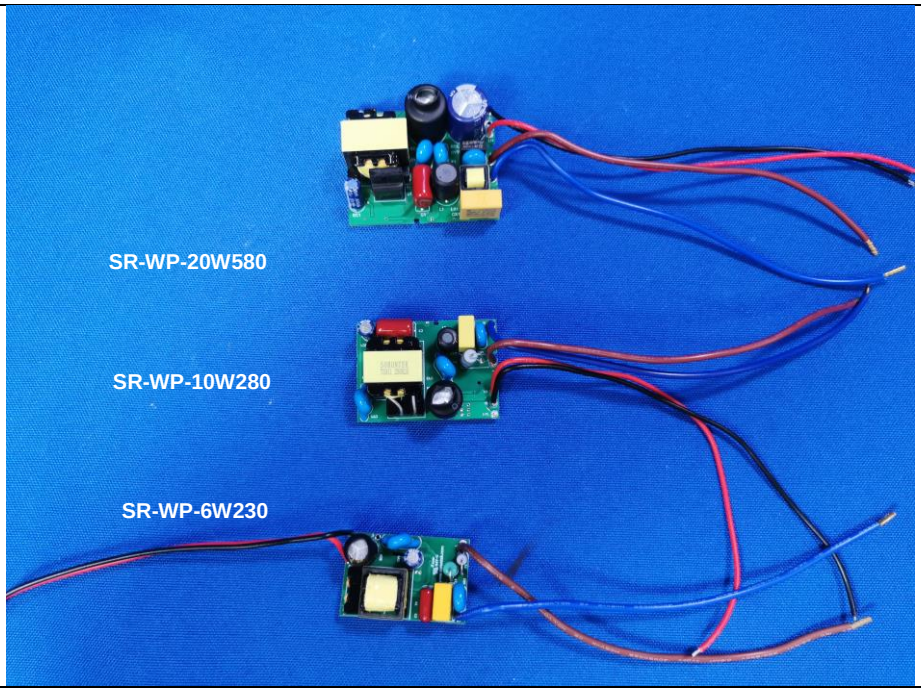


Attachment No.3 **Product Photos**

Details of: Fig 5. Internal view before potting

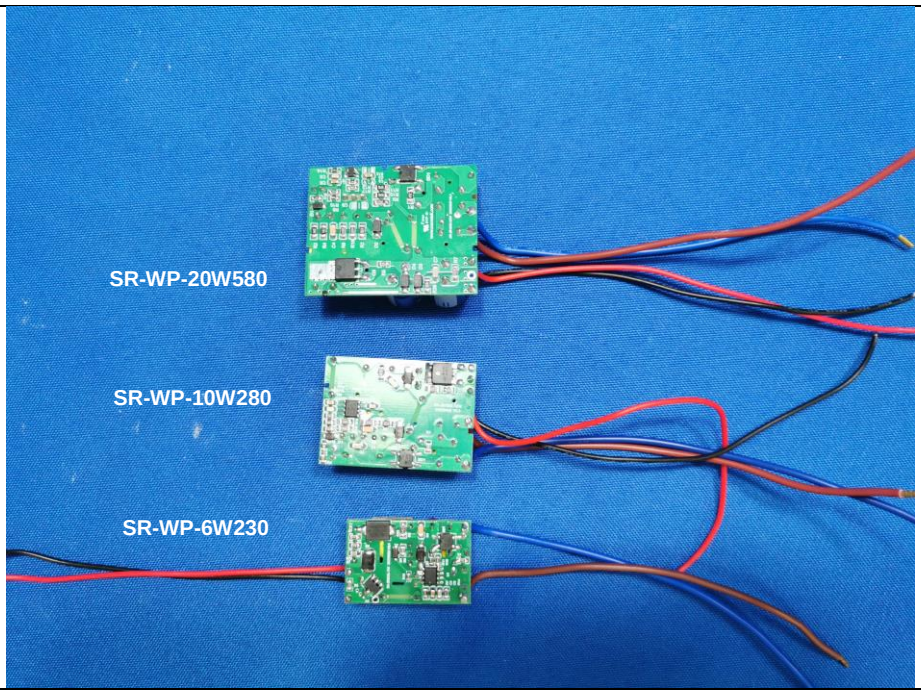


Details of: Fig 6. PCB front view

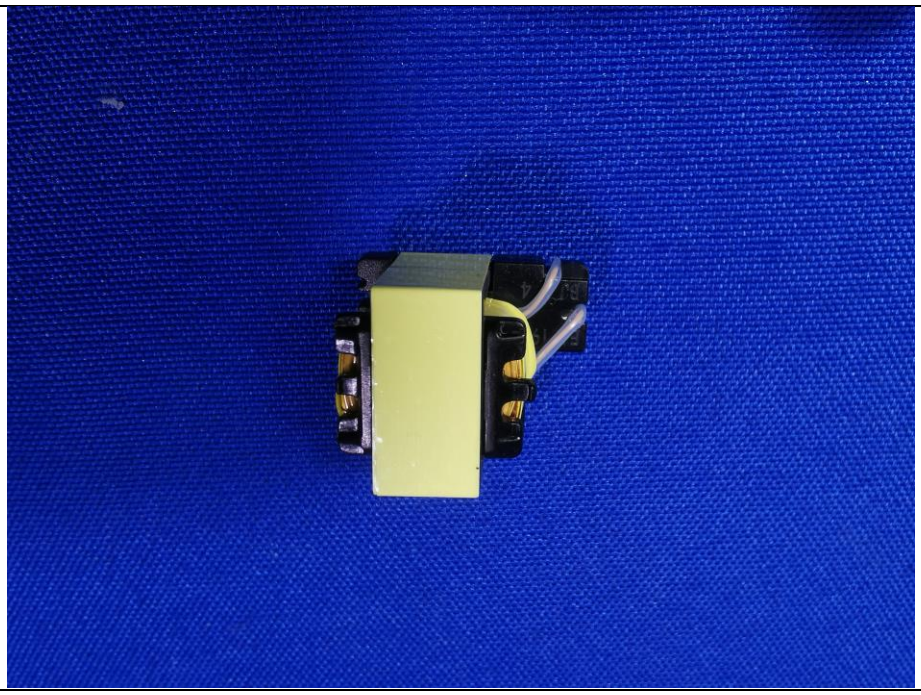


Attachment No.3 **Product Photos**

Details of: Fig 7. PCB back view

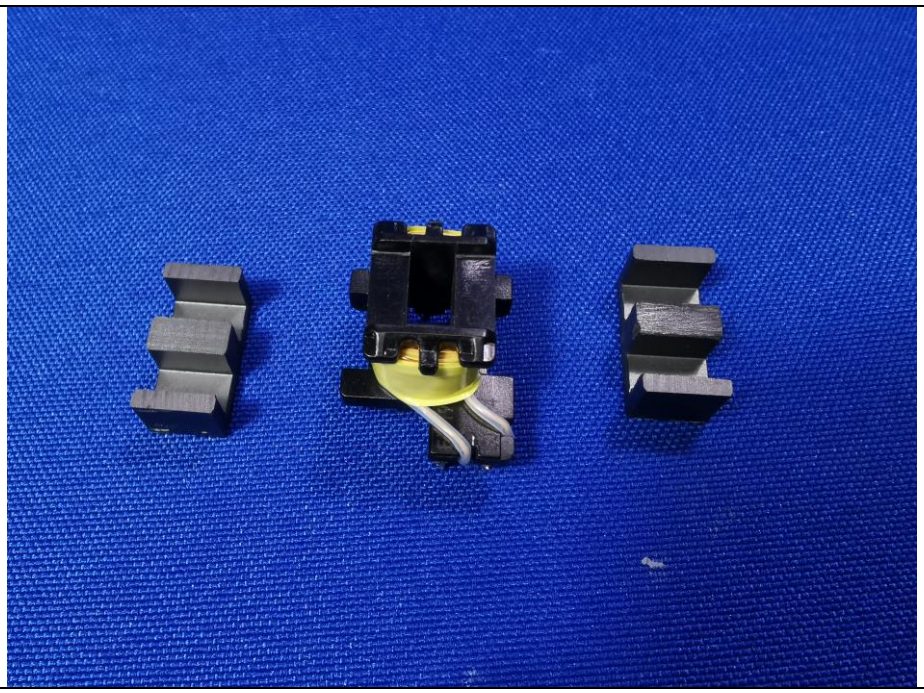


Details of: Fig 8. Transformer SR-JB1003-20W (For circuit diagram C models)

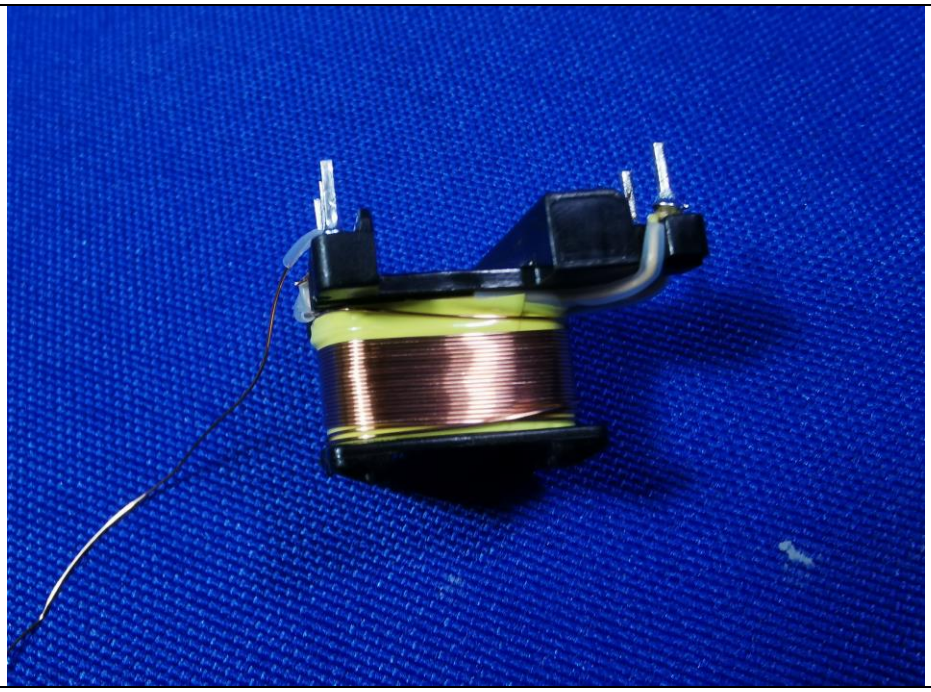


Attachment No.3 **Product Photos**

Details of: Fig 9. Internal view Transformer SR-JB1003-20W (For circuit diagram C models)

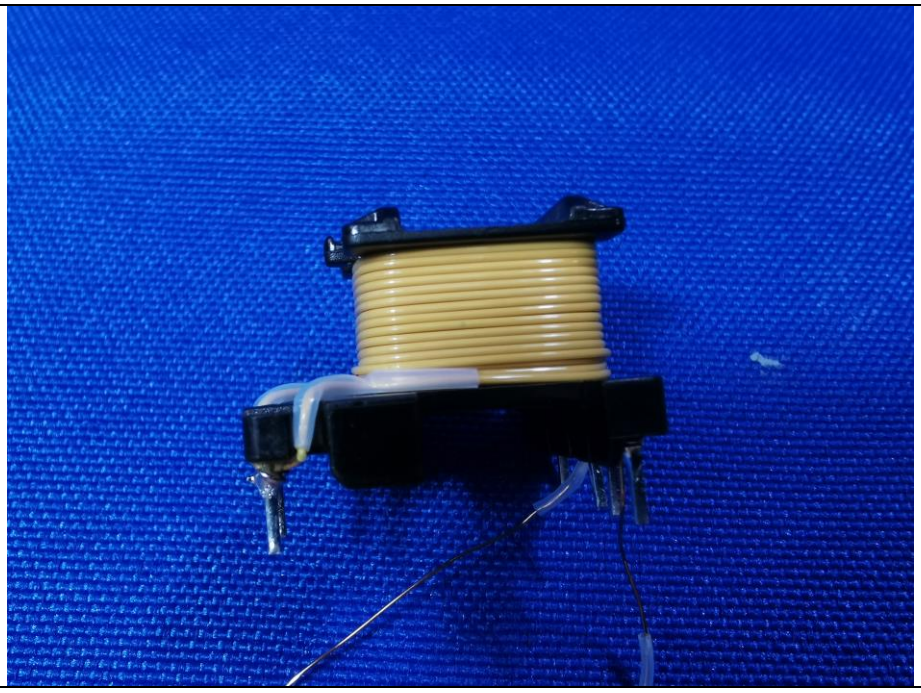


Details of: Fig 10. Primary winding view Transformer SR-JB1003-20W (For circuit diagram C models)

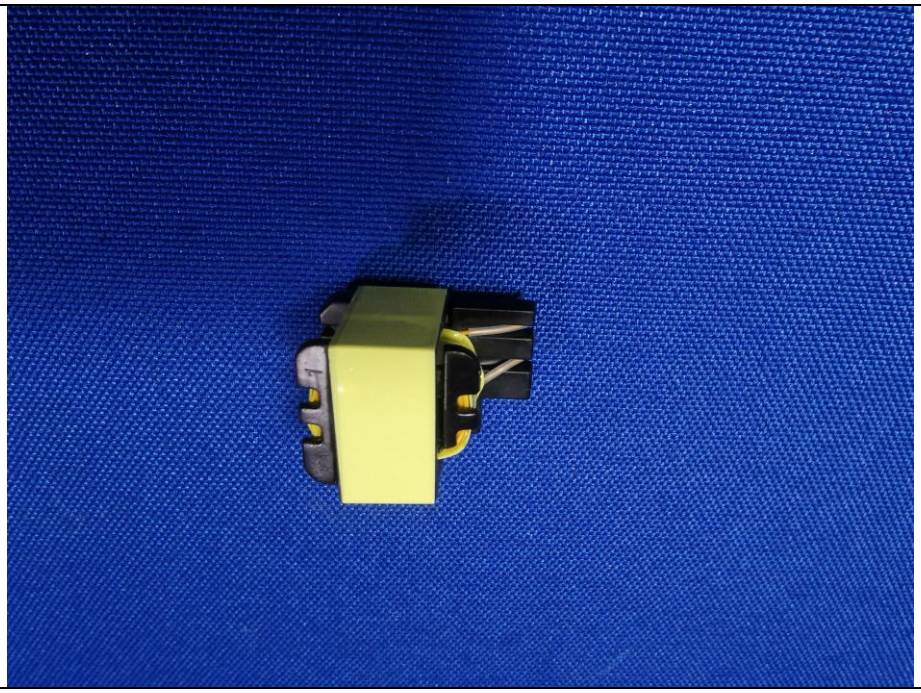


Attachment No.3 **Product Photos**

Details of: Fig 11. Secondary winding view Transformer SR-JB1003-20W (For circuit diagram C models)

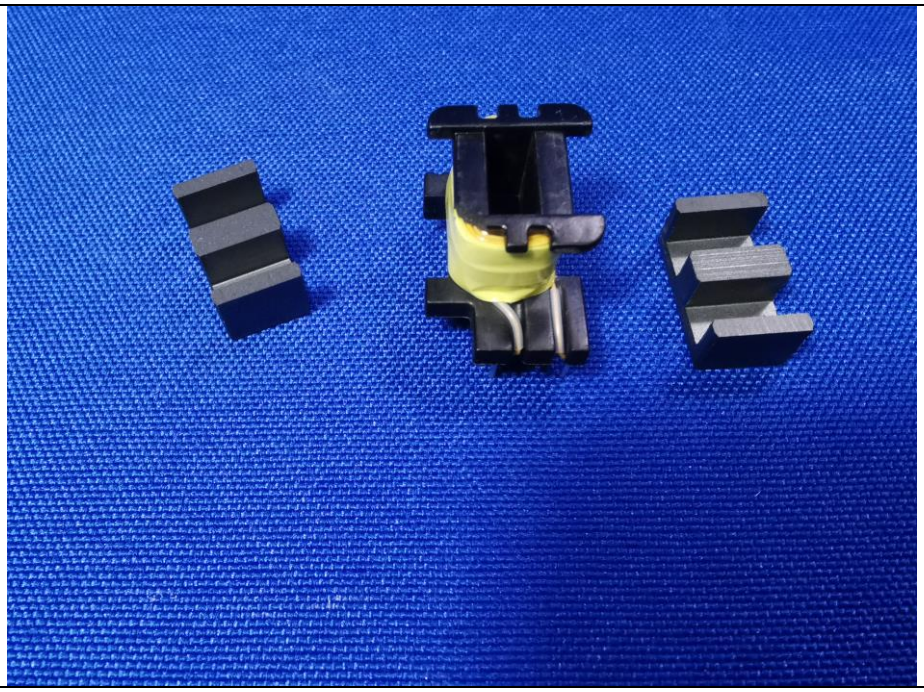


Details of: Fig 12. Transformer SR-JB1002-12W (For circuit diagram B models)

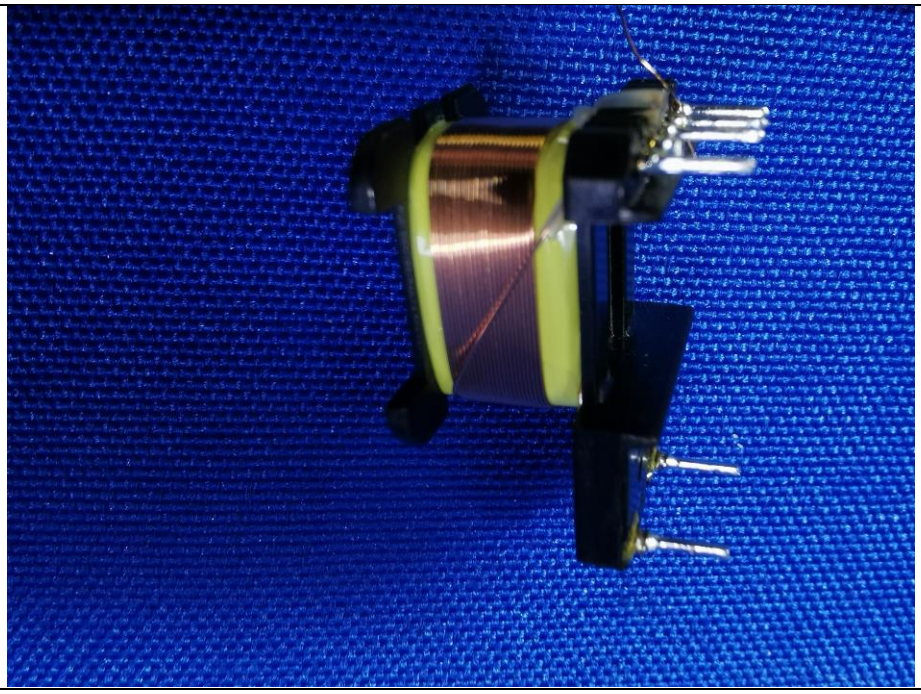


Attachment No.3 **Product Photos**

Details of: Fig 13. Internal view Transformer SR-JB1002-12W (For circuit diagram B models)

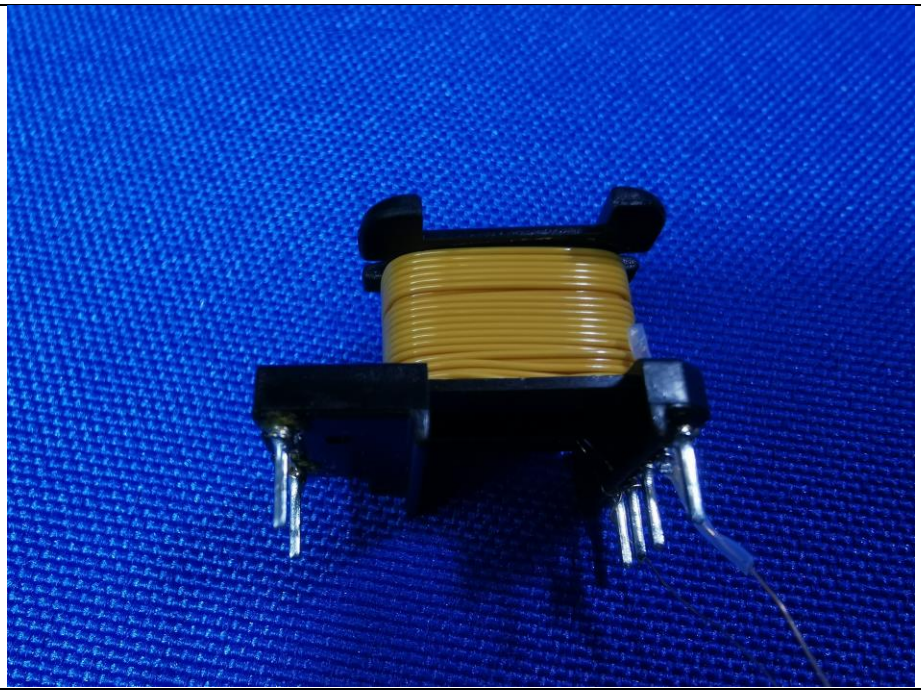


Details of: Fig 14. Primary winding Transformer SR-JB1002-12W (For circuit diagram B models)

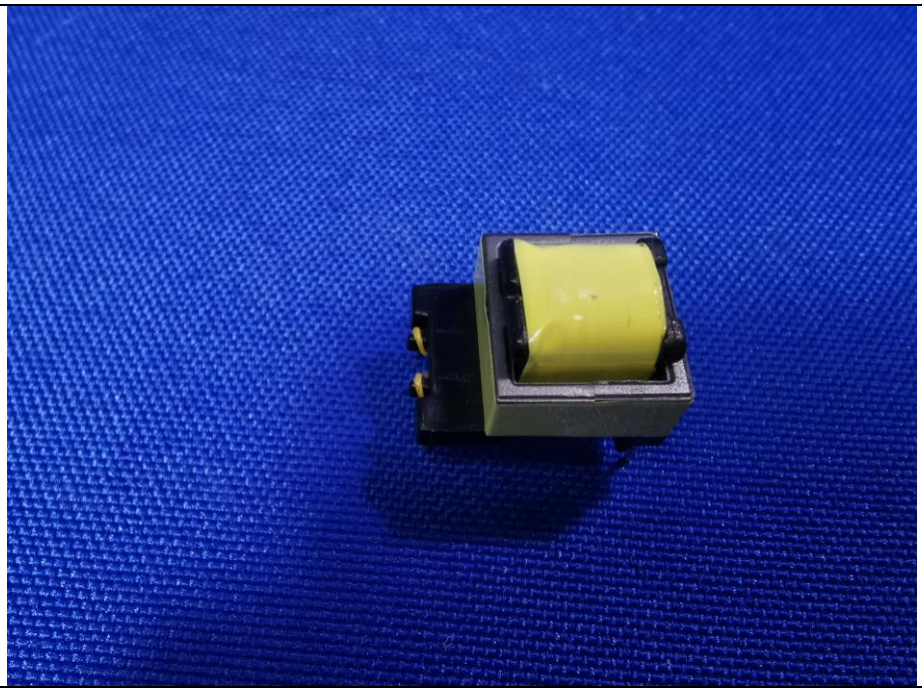


Attachment No.3 **Product Photos**

Details of: Fig 15. Secondary winding Transformer SR-JB1002-12W (For circuit diagram B models)

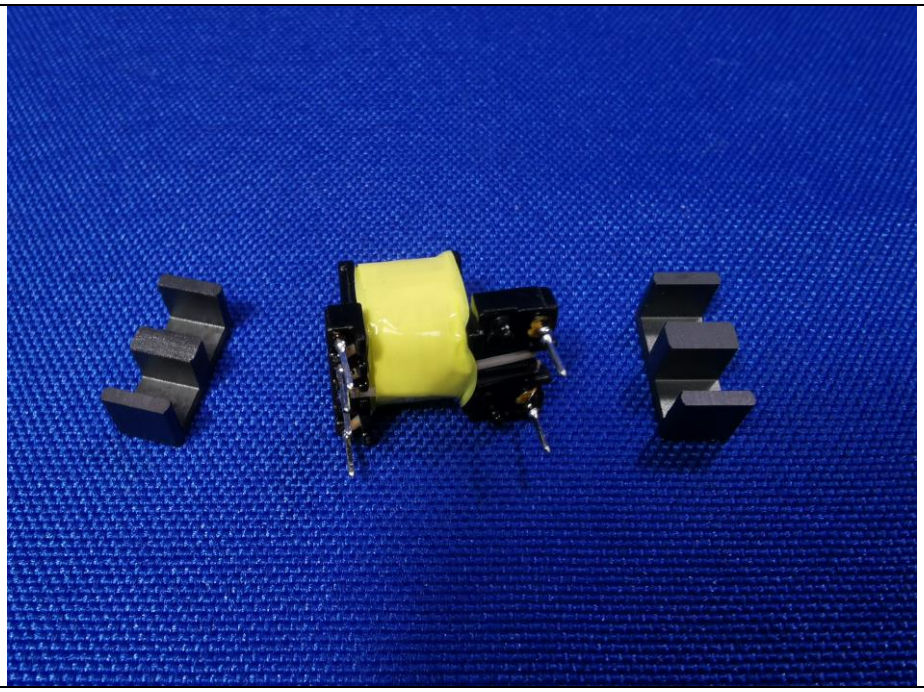


Details of: Fig 16. Transformer for SR-JB1001-6W (For circuit diagram A models)

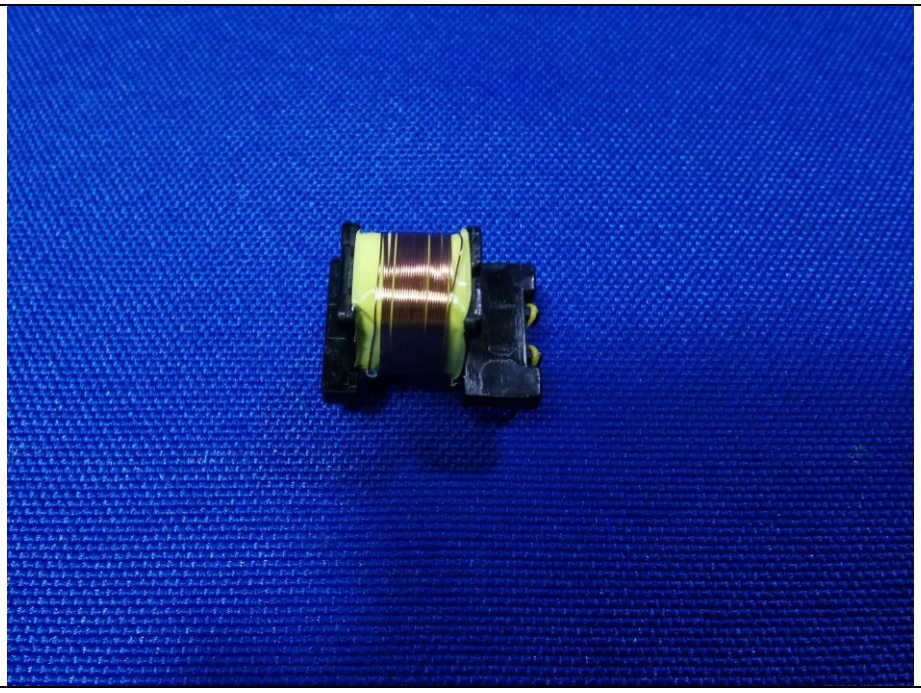


Attachment No.3 **Product Photos**

Details of: Fig 17. Internal view Transformer for SR-JB1001-6W (For circuit diagram A models)

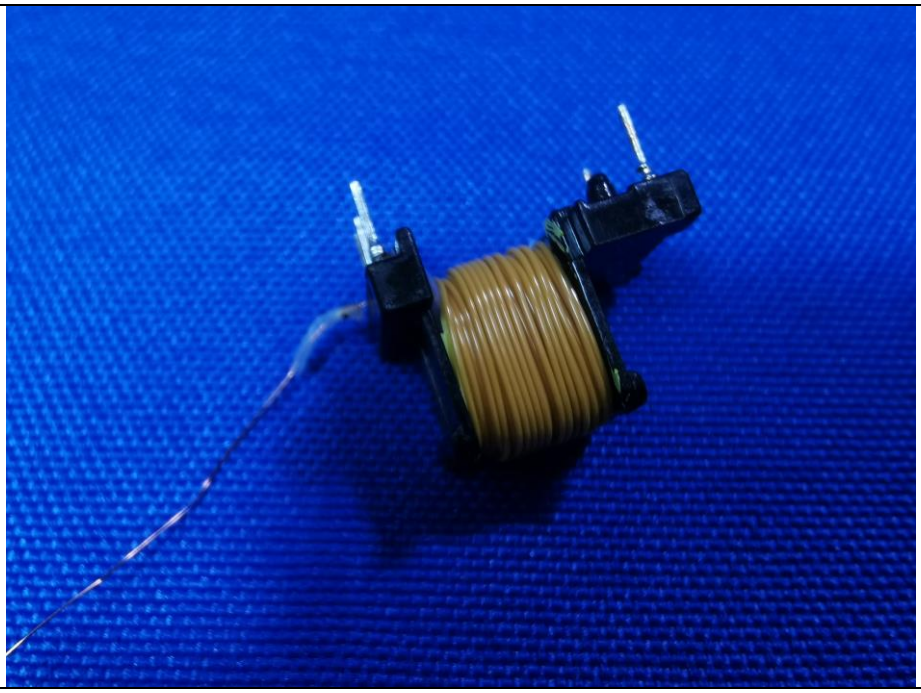


Details of: Fig 18. Primary winding Transformer for SR-JB1001-6W (For circuit diagram A models)



Attachment No.3 **Product Photos**

Details of: Fig 19. Secondary winding Transformer for SR-JB1001-6W (For circuit diagram A models)



- End of test report -