



SHENZHEN SANPU INTELLIGENT TECHNOLOGY CO., LTD.

CE LVD REPORT

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| Prepared For : | SHENZHEN SANPU INTELLIGENT TECHNOLOGY CO., LTD. 5 Floor, B3 Building, Huafengshiji Science Park, Nanchang Village, Xixiang Town, Baoan District, Shenzhen |
| Product Name: | WATERPROOF CONSTANT VOLTAGE SWITCHING POWER SUPPLY |
| Model : | LP100-W1V12, LP100-W1V5, LP100-W1V24, LP100-W1V36, LP60-W1V5, LP60-W1V12, LP60-W1V24, LP36-W1V5, LP36-W1V12 , LP36-W1V24 |
| Prepared By : | Shenzhen BST Technology Co., Ltd. Building No.23-24,Zhiheng Industrial Park,Guankouer Road, Nantou,Nanshan District,Shenzhen,Guangdong,China |
| Test Date: | Aug. 04- 14, 2015 |
| Date of Report : | Aug. 14, 2015 |
| Report No.: | BSTDG1508649071SR-2 |



LVD Report
EN 61347-1 & EN 61347-2-13
Lamp control gear
Part 1: General and safety requirements
Part 2: Particular requirements
Section Thirteen – d.c. or a.c. supplied electronic controlgear for
LED modules

| | |
|---|--|
| Testing laboratory | Shenzhen BST Technology Co.,Ltd. |
| Address | Building No.23-24,Zhiheng Industrial Park,Guankouer Road, Nantou,Nanshan District,Shenzhen,Guangdong,China |
| Testing location | Shenzhen BST Technology Co.,Ltd. |
| Applicant | SHENZHEN SANPU INTELLIGENT TECHNOLOGY CO., LTD. |
| Address | 5 Floor, B3 Building, Huafengshiji Science Park, Nanchang Village, Xixiang Town, Baoan District, Shenzhen |
| Standard | EN 61347-1:2008+A1:2011+A2:2013 + EN 61347-2-13:2014 |
| Test Result | Compliance with EN 61347-1: 2008+A1:2011+A2:2013+ EN 61347-2-13:2014 |
| Procedure deviation | N.A. |
| Non-standard test method | N.A. |
| Type of test object | WATERPROOF CONSTANT VOLTAGE SWITCHING POWER SUPPLY |
| Trademark | N.A. |
| Model/type reference | LP100-W1V12, LP100-W1V5, LP100-W1V24, LP100-W1V36, LP60-W1V5, LP60-W1V12, LP60-W1V24, LP36-W1V5, LP36-W1V12 , LP36-W1V24 |
| Rating | Input: 100-240VAC, 2.1A, 50/60Hz Output: +12V , 8.3A Max. |
| Manufacturer | SHENZHEN SANPU INTELLIGENT TECHNOLOGY CO., LTD. |
| Address | 5 Floor, B3 Building, Huafengshiji Science Park, Nanchang Village, Xixiang Town, Baoan District, Shenzhen |
| Test item particulars : | |
| Operation condition | Continuous |
| : | |
| Mass of equipment (Kg) | N/A |
| : | |
| Protection against ingress of water . : | IP67 |



Possible test case verdicts :

test case does not apply to the test object : N(.A.)

test object does meet the requirement : P(ass)

test object does not meet the requirement : F(ail)



Name and address of the testing laboratory : Shenzhen BST Technology Co.,Ltd.
Building No.23-24,Zhiheng Industrial Park,
Guankouer Road,Nantou,Nanshan District,
Shenzhen,Guangdong,China

Test by : Janice Li Aug. 14, 2015
Signature Date
Technician
Title

Review by : Apple Li Aug. 14, 2015
Signature Date
Project Engineer
Title

Approved by :  Aug. 14, 2015
Signature Date
Christina Deng/ Manager
Name and Title



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|--|--|
| <p>General remarks:</p> <p>"(see remark #)" refers to a remark appended to the report.</p> <p>"(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> | <p>Attached with:</p> <p>A. photo documentation</p> <p>B.General product information:</p> <p>The series products have the same circuit diagram, PCB layout and functionality. The differences are the model name and appearance, so, we select LP100-W1V12 to test.</p> |
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Artwork of Marking Label

WATERPROOF CONSTANT VOLTAGE SWITCHING POWER SUPPLY

Model : LP100-W1V12

Input: 100-240VAC, 2.1A, 50/60Hz

Output: +12V , 8.3A Max.

    **IP67**

SHENZHEN SANPU INTELLIGENT TECHNOLOGY CO., LTD.



| EN 61347-1 & EN 61347-2-13 | | | |
|----------------------------|--|-------------------------|---------|
| Cl. | Requirement – Test | Result | Verdict |
| 4 (-4) | GENERAL REQUIREMENT | | P |
| | In normal use it operates without danger to the user or surrounding | | P |
| | Independent controlgear be comply with EN60598-1 including the classification and marking requirements | | P |
| 5. | GENERAL NOTE ON TESTS | | P |
| 5.1 | Type tests | | P |
| 5.2 | Unless otherwise specified, ambient 10°C-30°C | | P |
| 5.3 | Unless otherwise specified, type test is carried out on one sample | | P |
| 5.4 | Be carried out in the order list, or specified in part2 | | P |
| 5.5 | Test in a test corner | | P |
| 5.6 | d.c supplied ballasts permit use equal supply. | No d.c. supplied | N |
| 6. | CLASSIFICATION | | P |
| | Built-in | | N |
| | Independent | | P |
| | integral | | N |
| 7. | MARKING | | P |
| 7.1 | Mandatory markings | | P |
| | - items a), b), c), d), e), l) and k) of 7.1 of IEC 61347-1, | | P |
| | a) mark of origin | See the label | P |
| | b) model number or type reference | See page 2 | P |
| | c) symbol for independent lamp controlgear | | N |
| | d) the correlation between replaceable and interchangeable parts be marked unambiguously | | P |
| | e) rated supply voltage/voltage range, supply frequency and supply current | AC100-240V 50/60Hz 2.1A | P |
| | l) value of t _c . | | P |
| | k) wiring diagram indication the position and | On the enclosure label | P |



| EN 61347-1 & EN 61347-2-13 | | | |
|----------------------------|--|------------|---------|
| Cl. | Requirement – Test | Result | Verdict |
| | purpose of terminals. | | |
| | – the symbol for earthing, as applicable; | | N |
| | – for controllable ballasts, the control terminals shall be identified; | | N |
| | – a declaration of the maximum working voltage (r.m.s.) according to 12.2 between | | N |
| | – output terminals; | | N |
| | -any output terminal and earth, if applicable. | | N |
| 7.2 | Information to be provided, if applicable | | P |
| | h) indication not rely upon the luminaire enclosure for protection against accidental contact with live parts. | | N |
| | i) indication the terminal's cross-section of conductors | | P |
| | j) lamp type and rated wattage /wattage range. | See manual | P |

| | | | |
|--------|--|--|---|
| 8(-10) | PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS | | P |
| 8.1 | For SELV-equivalent controlgear, the accessible parts shall be insulated from live parts by double or reinforced insulation. | | P |
| 8.2 | Output circuits of SELV- or SELV equivalent control gear may have exposed terminals if | | P |
| | -the rated output voltage for constant voltage control gear or maximum output voltage for constant current control gear under load does not exceed 25 V r.m.s.; | | N |
| | the no-load output voltage does not exceed 33 V r.m.s. and the peak does not exceed $33\sqrt{2}$ V. | | P |
| | Compliance 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, the controlgear is loaded with a resistance which would give rated output at rated output voltage. | | P |
| | For controlgear with more than one rated supply voltage, the requirement is applicable for each of the rated supply voltages. | | N |
| | Controlgear with a rated output voltage above 25 V shall have insulated terminals. | | N |



| EN 61347-1 & EN 61347-2-13 | | | |
|----------------------------|--|--------------------|---------|
| Cl. | Requirement – Test | Result | Verdict |
| 9 | TERMINALS | | N |
| | The requirements of Clause 8 of IEC 61347-1 apply. | | N |
| 10 | PROVISIONS FOR PROTECTIVE EARTHING | | N |
| | The requirements of Clause 9 of IEC 61347-1 apply. | | N |
| 11(-11) | MOISTURE RESISTANCE AND INSULATION | | P |
| | The requirements of Clause 11 of IEC 61347-1 apply, together with the following additional requirements: | 95%RH, 25°C, 48Hrs | P |
| | For SELV-equivalent controlgear, the insulation between input and output terminals not bonded together shall be adequate. | | P |
| | With double or reinforced insulation, the resistance shall be not less than 4 MΩ. | | P |
| 12(-12) | ELECTRIC STRENGTH | | P |
| | The requirements of Clause 12 of IEC 61347-1 apply, together with the following additional requirement: | | P |
| | Insulation conditions of windings of separating transformers in SELV-equivalent control gear shall apply according to 14.3.2 of IEC 60065. | | P |
| 13 | THERMAL ENDURANCE TEST FOR WINDINGS OF BALLASTS | | N |
| | The requirements of Clause 13 of IEC 61347-1 are not applicable. | | N |
| 14 | FAULT CONDITIONS | | P |
| | The requirements of Clause 14 of IEC 61347-1 apply, together with the following additional requirements: | See table 14 | P |
| | In the case of controlgear provided with the marking ∇ , the requirements specified in Annex C shall be fulfilled. | | N |



| EN 61347-1 & EN 61347-2-13 | | | |
|----------------------------|--|--------|---------|
| Cl. | Requirement – Test | Result | Verdict |
| 15 | TRANSFORMER HEATING | | P |
| | In SELV-equivalent controlgear, windings of separating transformers shall be tested according to 7.1 and 11.2 of IEC 60065. | | P |
| 15.1 | Normal operation | | P |
| | For normal operation, the values in the second column of Table 3 of IEC 60065 shall apply. | | P |
| 15.2 | Abnormal operation | | P |
| | For operation under abnormal conditions according to Clause 16 and fault conditions according to Clause 14 of this standard, the values in the third column of Table 3 of IEC 60065 shall apply. | | P |
| | The values of the temperature rise in Table 3 of IEC 60065, second and third column, are based on a maximum ambient temperature of 35 °C. Because the test will be made with the case temperature at tC, the relevant ambient temperature shall be measured and the values in Table 3 changed respectively. If these temperature rises are higher than those allowed by the class of the relevant insulating material, the nature of the material is the governing factor. The permissible temperature rises are based on the recommendations in IEC 60085. The materials quoted in Table 3 of IEC 60065 are shown only as examples. If materials other than those listed in IEC 60085 are used, the maximum temperatures shall not exceed those which have proved to be satisfactory. | | P |
| | Tests shall be made under conditions such that the controlgear is brought to tc, as reached under normal operation. | | P |
| 16 | ABNORMAL CONDITIONS | | P |
| | The controlgear shall not impair safety when operated under abnormal conditions. The shortcircuit in 16.1 and 16.2 shall be applied with the length of the output cable of both, 20 cm and 200 cm, unless otherwise declared by the manufacturer. | | P |



| EN 61347-1 & EN 61347-2-13 | | | |
|----------------------------|--|--------|---------|
| Cl. | Requirement – Test | Result | Verdict |
| 16.1 | Controlgear which are of the constant voltage output type | DC12V | P |
| | Compliance is checked by the following test at any voltage between 90 % and 110 % of the rated supply voltage. | | P |
| | Each of the following conditions shall be applied with the controlgear operating according to the manufacturer.s instructions (including heatsinks, if specified) for 1 h. | | P |
| | a) No LED module is inserted. If the controlgear is designed with multiple output circuits, each pair of corresponding output terminals for connecting a LED module shall be opened. | | P |
| | b) Double the LED modules or equivalent load for which the controlgear is designed, connected in parallel to the output terminals. | | P |
| | c) The output terminals of the controlgear shall be short-circuited. If the controlgear is designed with multiple output circuits, each pair of corresponding output terminals for connecting a LED module shall be short-circuited in turn. | | P |
| 16.2 | Controlgear which are of the constant current output type | | N |
| | The maximum output voltage shall not be exceeded. | | N |
| | Compliance is checked by the following test at any voltage between 90 % and 110 % of the rated supply voltage. | | N |
| | Each of the following conditions shall be applied with the controlgear operating according to the manufacturer.s instructions (including heatsinks, if specified) for 1 h. | | N |
| | a) No LED modules are connected. If the controlgear is designed with multiple output circuits, each pair of corresponding output terminals for connecting a LED module shall be opened in turn and then all opened simultaneously. | | N |
| | b) Double the LED modules or equivalent load for which the controlgear is designed, | | N |



| EN 61347-1 & EN 61347-2-13 | | | |
|----------------------------|---|-------------------|---------|
| Cl. | Requirement – Test | Result | Verdict |
| | connected in series to the output terminals. | | |
| | c) The output terminals of the controlgear shall be short-circuited. If the controlgear is designed with multiple output circuits, each pair of corresponding output terminals for connecting a LED module shall be short-circuited in turn. | | N |
| 17(-15) | CONSTRUCTION | | P |
| | The requirements of Clause 15 of IEC 61347-1 apply, together with the following additional requirement. | | P |
| | Socket-outlets in the output circuit shall not accept plugs complying with IEC 60083 and IEC 60906; neither shall it be possible to engage plugs accepted by socket-outlets in the output circuit with socket-outlets complying with IEC 60083 and IEC 60906. | No socket-outlets | N |
| | Compliance is checked by inspection and by manual test. | | N |
| 18(-16) | CREEPAGE DISTANCES AND CLEARANCES | | P |
| | Unless otherwise specified in Clause 14, the requirements of clause 16 of IEC 61347-1 apply. | | P |
| 19 | SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS | | P |
| | The requirements of Clause 17 of IEC 61347-1 apply. | | P |
| 20(-18) | RESISTANCE TO HEAT, FIRE AND TRACKING | | P |
| | The requirements of Clause 18 of IEC 61347-1 apply. | | P |
| 21 | RESISTANCE TO CORROSION | | P |
| | The requirements of Clause 19 of IEC 61347-1 apply. | | P |



| EN 61347-1 & EN 61347-2-13 | | | |
|----------------------------|--|-----------------|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |
| ANNEX A | TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK | | P |
| | The requirements of annex A of IEC 61347-1 apply. | | P |
| Annex B | PARTICULAR REQUIREMENTS FOR THERMALLY PROTECTED LAMP CONTROLGEAR | | N |
| | The requirements of Annex B of IEC 61347-1 are not applicable. | | N |
| Annex C | PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROLGEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING | | P |
| | The requirements of Annex C of IEC 61347-1 apply. | | P |
| Annex D | REQUIREMENTS FOR CARRYING OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROLGEAR | | P |
| | The requirements of Annex D of IEC 61347-1 apply. | | P |
| Annex E | USE OF CONSTANT S OTHER THAN 4 500 IN TW TESTS | | N |
| | The requirements of Annex E of IEC 61347-1 apply only for windings of 50 Hz/60 Hz. | | N |
| Annex F | DRAUGHT-PROOF ENCLOSURE | | P |
| | The requirements of Annex F of IEC 61347-1 apply. | | P |
| Annex G | EXPLANATION OF THE DERIVATION OF THE VALUES OF PULSE VOLTAGES | | N |
| | The requirements of Annex G of IEC 61347-1 are not applicable. | | N |
| Annex H | TESTS | | P |
| | The requirements of Annex H of IEC 61347-1 apply. | | P |



| EN 61347-1 & EN 61347-2-13 | | | |
|----------------------------|---|-----------------|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |
| Annex I | GENERAL (BUILDING IN CONTROLGEAR) | | N |
| | This annex applies to independent controlgear for use as SELV supply for class III luminaires of 25 A maximum. | | N |
| I.3.1 | According to their protection against electric shock | | N |
| | - class I controlgear | | N |
| | - class II controlgear. | | P |
| I.3.2 | According to the short-circuit or open circuit protection or protection against abnormal use | | P |
| | a) non-inherently short circuit proof controlgear; | | N |
| | b) non-inherently open circuit proof controlgear; | | N |
| | c) inherently short circuit proof controlgear; | | P |
| | d) inherently open circuit proof controlgear; | | P |
| | e) fail-safe controlgear; | | P |
| | f) non-short-circuit proof controlgear; | | N |
| | g) non-open-circuit proof controlgear. | | N |
| | Tests for controlgear, classified according to b), d) and g) shall be carried out like the tests for controlgear, classified according to a), c) and f), but with the condition of "no load". | | P |
| I.5 | PROTECTION AGAINST ELECTRIC SHOCK | | P |
| | Compliance is checked by inspection. | | P |
| I.6 | HEATING | | P |
| I.6.1 | Controlgear and their supports shall not attain excessive temperature in normal use. | | P |
| I.6.3 | Tests | | P |
| | When applicable (see I.6.1), the active parts of the controlgear (magnetic core and windings) are subjected to the following cycling test, each cycle consisting of a heat run, a moisture treatment and a vibration test. Measurements are made after each cycle. The number of specimens shall be as indicated in Clause 5 (three additional specimens). The | | P |



| EN 61347-1 & EN 61347-2-13 | | | |
|----------------------------|---|-----------------|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |
| | specimens shall be subjected to 10 test cycles. | | |
| I.6.3.2 | Moisture treatment | | P |
| | The specimens are submitted for two days (48 h) to a moisture treatment according to Clause 11 of IEC 61347-1. | | P |
| I.6.3.3 | Vibration test | | P |
| | With the axis of the windings vertical, the specimens are submitted for 1 h to a vibration test, exerting a maximum acceleration of 1,5 g at rated supply frequency. | | P |
| I.7 | SHORT-CIRCUIT AND OVERLOAD PROTECTION | | P |
| I.7.2 | Inherently short-circuit proof controlgear are tested by short-circuiting the output windings until steady-state conditions are reached. | | P |
| I.7.3 | Non-inherently short-circuit proof controlgear are tested as indicated in I.7.3.1 to I.7.3.5. | | P |
| I.8 | INSULATION RESISTANCE AND STRENGTH | | P |
| I.8.1 | The insulation resistance and the strength of controlgear shall be adequate. | | P |
| I.8.2 | Insulation resistance | | P |
| I.8.3 | Electric strength | | P |
| I.9 | CONSTRUCTION | | P |
| I.9 | Components | | N |
| I.10.1 | Socket-outlets in the output circuit shall not accept plugs complying with IEC 60083 and IEC 60906-1, neither shall it be possible to engage plugs accepted by socket-outlets in the output circuit with socket-outlets complying with IEC 60083 and IEC 60906-1. | | N |
| | Compliance is checked by inspection and by manual test. | | N |
| I.11 | Creepage distance and clearances | | P |



| Annex 1 | Critical components | | | | P |
|------------------------|----------------------------|----------------------|-------------------------------------|----------|--------------------------|
| object/part No. | manufacturer/ trademark | type/model | technical data | standard | mark(s) of conformity |
| electrolytic capacitor | Various | Various | 22uF/50V;±20%105℃;Φ5*11mm | -- | Tested with appliance |
| electrolytic capacitor | Various | Various | 1000UF/25V;10*20±20%105℃LOWESR | -- | Tested with appliance |
| electrolytic capacitor | Various | Various | 470uF/25V;±20%105℃Φ8*14mm LOWESR | -- | Tested with appliance |
| electrolytic capacitor | Various | Various | 120UF/400 | -- | Tested with appliance |
| Y-capacitors | Various | Various | 222M/400V;P=10MM | -- | Tested with appliance |
| MOS tube | | 12N65 | 12A/650V;TO-220F | -- | Tested with appliance |
| Transformer | Various | LP100W-12V PQ3225 | 400uH ,+/-10% | -- | Tested with appliance |
| Fuse | Various | Various | T4A/250V | -- | Tested with appliance |
| PCB | Various | LP100W | REV3.0 156*35*1.6MM | -- | UL |
| Leads wire | Various | Various | 2x0,75mm2 | -- | VDE |

| Table 7.2 | Durability of marking test | | | P |
|--------------------|----------------------------|------|-------------------------------------|---|
| Location | Checked by | Time | Result | |
| External enclosure | Water | 15s | No any curling and still legibility | |
| External enclosure | Petroleum spirit | 15s | No any curling and still legibility | |

| Table 11 | Humidity test | | | | P |
|-----------------|---------------|---------------------|----------|--------------------|---|
| Test condition: | Temperature | Relative Humidity | Duration | Breakdown (Y/N) | |
| | | 25℃ | 93% | 48 hours | N |
| Test points | | Measured insulation | | Limited insulation | |
| Between | To | | | | |
| L | N | >100MΩ | | 2MΩ | |
| Input | Output | >100MΩ | | 4MΩ | |
| Live parts | Enclosure | >100MΩ | | 4MΩ | |



| | | | |
|----------------------------|--------------------|-----------------|---------|
| EN 61347-1 & EN 61347-2-13 | | | |
| Clause | Requirement - Test | Result - Remark | Verdict |

| | | | | |
|-------------|-------------------|--------------|--------------|---|
| Table 12 | Electric strength | | | P |
| Test points | | Test voltage | Results | |
| Between | To | | | |
| Input | Output | 3710Vac | No breakdown | |
| Line | Neutral | 1480Vac | No breakdown | |
| Live parts | Enclosure | 3710Vac | No breakdown | |

| | | | | |
|----------|---------------------------|---|--|--------|
| Table 14 | Tests of fault conditions | | | P |
| Part | Simulated fault | Test result | | Hazard |
| C1 | s-c | F1 opened immediately. | | No |
| D2 | s-c | F1 opened immediately. | | No |
| Q1 (e-c) | s-c | Unit shut down immediately, unit can be recoverable | | No |
| Q1 (e-b) | s-c | Unit shut down immediately, unit can be recoverable | | No |



| EN 61347-1 & EN 61347-2-13 | | | | | | |
|----------------------------|--------------------|--|--|-----------------|--|---------|
| Clause | Requirement - Test | | | Result - Remark | | Verdict |

| Table 15 | Heating test | | | | | P |
|----------|------------------------------------|--------|------|--|--|-------------------------------|
| | test voltage (V) : | 90 | 264 | | | — |
| | maximum temperature T of part/at:: | T (°C) | | | | allowed T _{max} (°C) |
| | Leads wire | 32.8 | 31.9 | | | 80 |
| | Fuse | 43.3 | 41.9 | | | 110 |
| | capacitor | 45.8 | 46.9 | | | 125 |
| | transformer | 62.8 | 63.8 | | | 110 |
| | Output power wire | 35.4 | 37.7 | | | 80 |
| | PCB | 50.8 | 52.9 | | | 130 |
| | Enclosure | 45.8 | 46.2 | | | 75 |
| | Ambient | 25.0 | 25.0 | | | -- |

| Table 16 | Abnormal conditions | | P |
|----------|------------------------------|----------------------------|--------|
| | Fault condition (for output) | Test result | Hazard |
| | No lamp is inserted | Not operate | No |
| | Double the number of lamps | No defect impairing safety | No |
| | Output s-c | No defect impairing safety | No |

| Table 18 | Creepage distances and clearances | | | | | | |
|----------|---|-----|-----|------------|-----|-----|------|
| | Minimum distances for 240Va.c. (50/60Hz) sinusoidal voltages | | | | | | -- |
| | RMS working voltage (V) not exceeding | 50 | 150 | 250 | 500 | 750 | 1000 |
| | 1 minimum distances between live parts of different polarity. Specify the value measured. | -- | -- | X | -- | -- | -- |
| | 2 minimum distances between live parts and accessible parts which are permanently fixed to the ballast, including screws or devices for fixing covers or fixing the ballast to its support. Specify the value measured. | -- | -- | -- | -- | -- | -- |
| | - required creepage distances (mm), insulation PTI ≥ 600 | 0,6 | 1,4 | 1,7 | 3 | 4 | 5,5 |
| | - required creepage distances (mm), insulation PTI < 600 | 1,2 | 1,6 | 2,5 | 5 | 8 | 10 |
| | Between two terminals of fuse link: 2.7mm | | | | | | |
| | Between different polarity of L, N under input terminal: 3.5mm | | | | | | |



| EN 61347-1 & EN 61347-2-13 | | | | | | | |
|---|--------------------|-----|------------|-----------------|-----|-----|---------|
| Clause | Requirement - Test | | | Result - Remark | | | Verdict |
| - required clearances (mm) | 0,2 | 1,4 | <u>1,7</u> | 3 | 4 | 5,5 | |
| Between two terminals of fuse link: 2.7mm | | | | | | | |
| Between different polarity of L, N under input terminal: 3.5mm | | | | | | | |
| 3 minimum distances between live parts and a flat supporting surface or a loose metal cover, if any, if the construction does not ensure that the values under 2 above are maintained under the most unfavourable circumstances | -- | -- | -- | -- | -- | -- | -- |
| - required clearances (mm) | 2 | 3,2 | 3,6 | 4,8 | 6 | 8 | |
| Minimum distances for non-sinusoidal pulse voltages | | | | | | | |
| rated pulse voltage (peak kV) | 2,0 | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 |
| required minimum distances, clearances (mm) | 1,0 | 1,5 | 2 | 3 | 4 | 5,5 | 8 |
| Specify the value measured | -- | -- | -- | -- | -- | -- | -- |
| rated pulse voltage (peak kV) | 10 | 12 | 15 | 20 | 25 | 30 | 40 |
| required minimum distances, clearances (mm) | 11 | 14 | 18 | 25 | 33 | 40 | 60 |
| Specify the value measured | -- | -- | -- | -- | -- | -- | -- |
| rated pulse voltage (peak kV) | 50 | 60 | 80 | 100 | - | - | - |
| required minimum distances, clearances (mm) | 75 | 90 | 130 | 170 | - | - | - |
| Specify the value measured | -- | -- | -- | -- | -- | -- | -- |

| Table 20(18.1) | Ball-pressure tests for thermoplastics | | P |
|----------------|--|--------------------------|-----|
| | Limited impression diameter (mm) | ≤ 2 mm | --- |
| Part | Test temperature (°C) | Impression diameter (mm) | |
| PCB | 125 | 0.71 | |
| Enclosure | 75 | 0.82 | |

| Table 20(18.2) | Glow wire test | | P |
|----------------|-----------------------|--|---|
| Part | Test temperature (°C) | Result | |
| PCB | 650 | Any flame or glowing extinguish within 30s | |
| Enclosure | 650 | Any flame or glowing extinguish within 30s | |



ANNEX A:

Photo-documentation



Photo 1 Overview



Photo 2 Overview

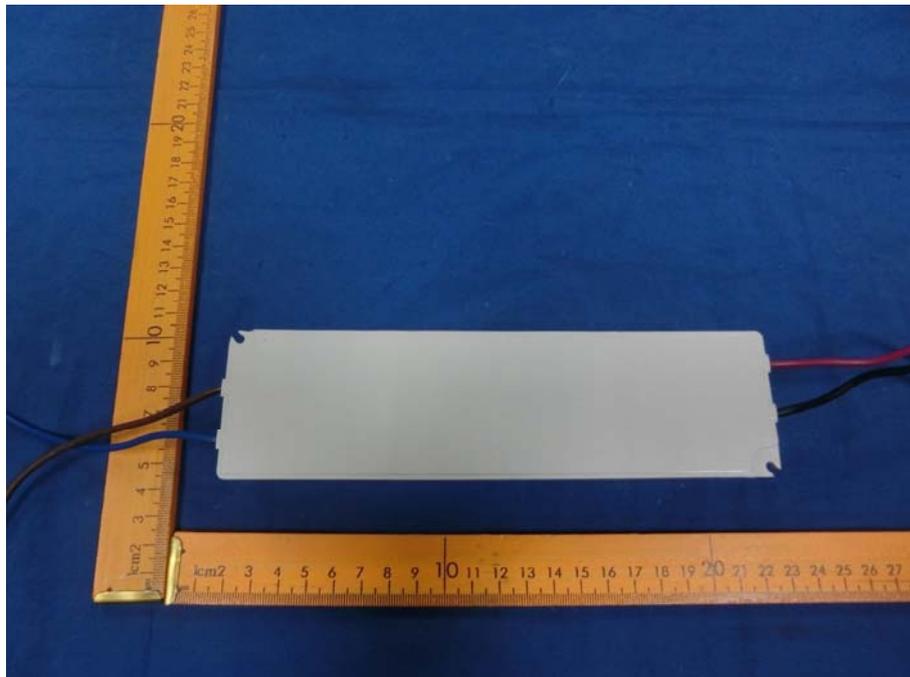




Photo 3 Overview

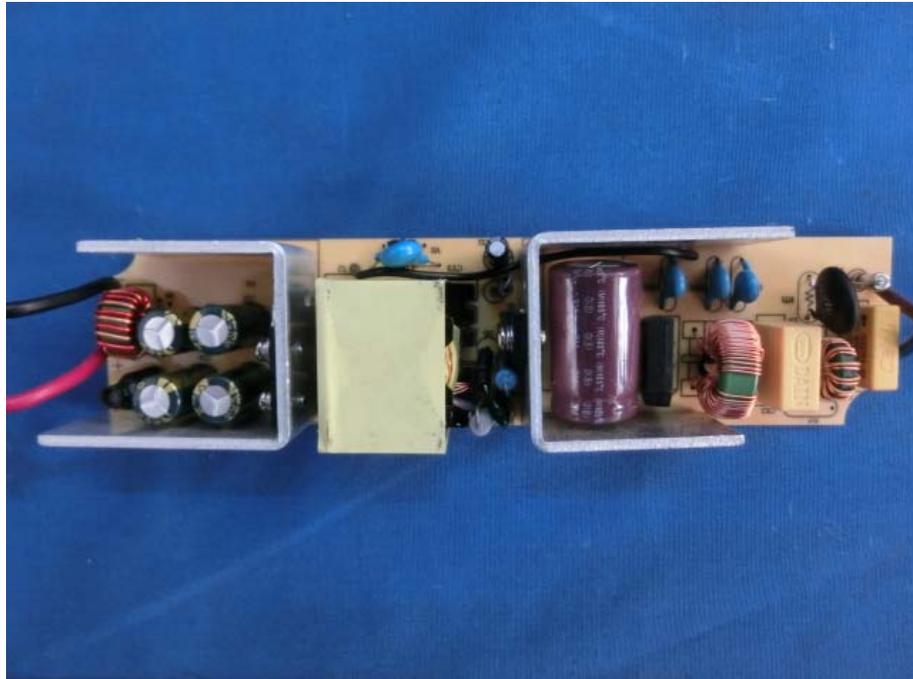


Photo 4 Overview

