



Ref. Certif. No.

DE 2-025687-M1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product	LED Driver
Name and address of the applicant	Xiamen AcTEC Electronics Co., Ltd. No. 4, Tongfu Road, Tong'an Industrial Center, Tong'an District, Xiamen, 361100 Fujian, P.R. China
Name and address of the manufacturer	Xiamen AcTEC Electronics Co., Ltd. No. 4, Tongfu Road, Tong'an Industrial Center, Tong'an District, Xiamen, 361100 Fujian, P.R. China
Name and address of the factory	Xiamen AcTEC Electronics Co., Ltd. No. 4, Tongfu Road, Tong'an Industrial Center, Tong'an District, Xiamen, 361100 Fujian, P.R. China
Ratings and principal characteristics	I/P: 220-240V, 50/60Hz; Class II For other ratings, see test report
Trademark (if any)	AcTEC
Customer's Testing Facility (CTF) Stage used	CTF Stage 1
Model / Type Ref.	Q8H-12V-40W, Q8H-24V-40W, Q8H-12V-50W, Q8H-24V-50W, Q8H-12V-60W, Q8H-12V-75W, Q8H-24V-60W, Q8H-24V-75W, Q8H-24V-75W-NTC, Q8H-60-24A, Q8H-75-24A, Q8H-12V-100W, Q8H-24V-100W, Q8H-12V-150W, Q8H-24V-150W, Q8H-100-24A, Q8H-150-24A
Additional information (if necessary may also be reported on page 2)	For model differences, refer to the test report. Re-issue of DE 2-025687 dated 07.08.2019, due to first modification.
A sample of the product was tested and found to be in conformity with	IEC 61347-2-13:2014+A1 IEC 61347-1:2015+A1 for national differences see test report
As shown in the Test Report Ref. No. which forms part of this Certificate	50272600 002

This CB Test Certificate is issued by the National Certification Body



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Date: 2020-09-04




Signature: Dipl.-Ing. Univ. S. O. Steinke



Test Report issued under the responsibility of:



TEST REPORT IEC 61347-2-13 Part 2: Particular requirements: Section 13 – d.c. or a.c. supplied electronic controlgear for LED modules	
Report Number	50272600 002
Date of issue	Sep.01, 2020
Total number of pages	9 pages
Name of Testing Laboratory preparing the Report	TÜV Rheinland (Shenzhen) Co., Ltd.
Applicant's name	Xiamen AcTEC Electronics Co., Ltd.
Address	No. 4, Tongfu Road, Tong'an Industrial Center, Tong'an District, Xiamen, 361100 Fujian, China
Test specification:	
Standard	IEC 61347-2-13:2014, AMD1:2016 used in conjunction with IEC 61347-1:2015, AMD1:2017
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No	IEC61347_2_13G
Test Report Form(s) Originator	Intertek Semko AB
Master TRF	2017-12-01
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General disclaimer: The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description	LED Driver	
Trade Mark		
Manufacturer.....	Same as applicant	
Model/Type reference	See model list on pages 6-7	
Ratings	I/P: 220-240V, 50/60Hz, see model list on pages 5-6 for details Class II; IP20; thermally protected 110; independent SELV; Constant voltage; with MM mark; see model list for Ta and Tc.	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/> CB Testing Laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.	
Testing location/ address	1601 R&D Room, 1602-1604, 17-18F, Building 7 Site C, Vanke Cloud City Phase I, Xingke First Street, Xili Street, Xili Community, Nanshan District, Shenzhen 518052, P.R. China	
Tested by (name, function, signature)		
Approved by (name, function, signature) ..		
<input checked="" type="checkbox"/> Testing procedure: CTF Stage 1:	AcTEC (Xiamen) Laboratory	
Testing location/ address	No. 4, Tongfu Road, Tong'an Industrial Center, Tong'an District, Xiamen, Fujian, China	
Tested by (name, function, signature)	Jason Zheng Project Handler	
Approved by (name, function, signature) ..	Jammy Zhang Technical Certifier	
<input type="checkbox"/> Testing procedure: CTF Stage 2:		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
<input type="checkbox"/> Testing procedure: CTF Stage 3:		
<input type="checkbox"/> Testing procedure: CTF Stage 4:		
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
Supervised by (name, function, signature) :		

List of Attachments (including a total number of pages in each attachment):**Attachment 1:** Measurement section including below parts: (2 pages)

ANNEX 4: Temperature measurements, thermal tests;

Attachment 2: Photo documentation (1 page)**Summary of testing:****Tests performed (name of test and test clause):**

<u>Clause(s)</u>	<u>Test(s)</u>
IEC 61347-1	
Annex L.6	Normal Heating test

The EUTs passed the test.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2.

Summary of compliance with National Differences:

See original report 50272600 001 for details

Copy of marking plate

See original report 50272600 001 for details

Test item particulars	LED driver
Classification of installation and use	Independent SELV
Supply Connection	Screw terminals
.....	:
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	Aug.10, 2020
Date (s) of performance of tests	Aug.10, 2020 to Aug.17, 2020
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p> <p>Clause numbers between brackets refer to clauses in IEC 61347-1</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 61347-1:	
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.....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)	See original report 50272600 001 for details

General product information:**Description of change(s):**

1. Change test laboratory address from “East of F/1, F/2~F/4, Building 1, Cybio Technology Building No. 6 Langshan No.2 Road, North Hi-tech Industry Park 518057 Shenzhen Nanshan District CHINA” to “1601 R&D Room, 1602-1604, 17-18F, Building 7 Site C, Vanke Cloud City Phase I, Xingke First Street, Xili Street, Xili Community, Nanshan District, Shenzhen 518052, P.R. China” due to test laboratory relocated;
2. According to client’s request, add new model **Q8H-24V-75W-NTC** which identical to original model Q8H-24V-75W except one thermistor(NTC 2) for chosen;

For the above described change(s) the following was considered to be necessary :

Change	Testing	Comments
1.	N/A	See CB Testing Laboratory on page 2 for details
2.	Annex L.6	See attachment 1 for details.

Independent LED driver for LED module only, SELV, constant voltage output, Class II, IP20, for indoor used only, thermally protected 110, with MM mark.

The top and bottom plastic enclosure are fixed together by physical lock method and screws. The enclosure color can be different from the appended photos, no technical differences.

See following table for model difference details:

Rated input voltage: 220-240V, 50/60Hz

History of amendments and modifications:

Ref. No. 50272600 001 dated Jul.31, 2019 (original test report)

Ref. No. 50272600 002 dated Sep.01, 2020 (modification)

Table A

Series	Model	Ta (°C)	Tc (°C)	Rated input current (A)	Rated output			Circuit & PCB layout	Size (mm)
					Voltage (V)	Current (A)	Max. power (W)		
1	Q8H-12V-40W	-20...+50	85	0.25	12	0-3.3	40	Type A (115084)	166*52*24
	Q8H-24V-40W	-20...+50	85	0.25	24	0-1.7	40		
2	Q8H-12V-50W	-20...+50	85	0.30	12	0-4.2	50	Type B (115098)	184*61*32
	Q8H-24V-50W	-20...+50	85	0.30	24	0-2.1	50	Type C (115081)	
3	Q8H-12V-60W	-20...+50	85	0.35	12	0-5.0	60	Type D (115071)	
	Q8H-12V-75W	-20...+50	85	0.45	12	0-6.3	75	Type E (115046)	
	Q8H-24V-60W	-20...+50	85	0.35	24	0-2.5	60		
	Q8H-24V-75W	-20...+50	85	0.45	24	0-3.1	75		
	Q8H-24V-75W-NTC								
4	Q8H-60-24A	-20...+50	85	0.35	24	0.2-2.5	60	Type F (11710481)	
	Q8H-75-24A	-20...+50	85	0.45	24	0.2-3.125	75		
5	Q8H-12V-100W	-20...+50	85	0.56	12	0-8.3	100	Type G (115131)	
	Q8H-24V-100W	-20...+50	85	0.56	24	0-4.2	100		
6	Q8H-12V-150W	-20...+45	90	0.90	12	0-12.5	150	Type H (11710507)	210*67*34
7	Q8H-24V-150W	-20...+45	90	0.90	24	0-6.25	150	Type I (11710492)	
	Q8H-100-24A	-20...+45	85	0.65	24	0.2-4.17	100		
	Q8H-150-24A	-20...+45	90	0.90	24	0.2-6.25	150		
<p>All series 2-5 models have the same appearance; All series 2 models have the same primary circuit and layout; All series 3 models have the same primary circuit and layout; Q8H-100-24A and Q8H-150-24A have the same appearance; Q8H-12V-150W and Q8H-24V-150W have the same appearance; Models Q8H-60-24A, Q8H-75-24A, Q8H-100-24A, Q8H-150-24A are with dimmable output, all other models are non-dimmable.</p>									

Series	Model	Transformer	
1	Q8H-12V-40W	Type A (PQ32)	N1:N2:N3=50:5:7
	Q8H-24V-40W	Type A ¹ (PQ32)	N1:N2:N3=50:10:7
2	Q8H-12V-50W	Type B (TR-PQ32)	N1:N2:N3=40:4:7
	Q8H-24V-50W	Type B ¹ (TR-PQ32)	N1:N2:N3=40:8:7
3	Q8H-12V-60W	Type B ² (TR-PQ32)	N1:N2:N3=40:4:7
	Q8H-12V-75W		
	Q8H-24V-60W	Type B ³ (TR-PQ32)	N1:N2:N3=40:8:7
	Q8H-24V-75W		
4	Q8H-60-24A	Type C (TR-PQ32)	N1:N2:N3:N4=40:8:7:8
	Q8H-75-24A		
5	Q8H-12V-100W	Type D (PQ2620)	N1:N2:N3:N4=33:4:2:2
	Q8H-24V-100W	Type D ¹ (PQ2620)	N1:N2:N3:N4=33:4:4:4
6	Q8H-12V-150W	Type E (ETD34)	N1:N2:N3:N4:N5=36:2:2:4:4
7	Q8H-24V-150W	Type E ¹ (ETD34)	N1:N2:N3:N4:N5=36:4:4:4:4
	Q8H-100-24A		
	Q8H-150-24A	Type E ² (ETD34)	N1:N2:N3:N4:N5=33:4:4:4:4
<p>All type A transformers are with the same appearance, size and construction; All type B transformers are with the same appearance, size and construction; All type D transformers are with the same appearance, size and construction; All type E transformers are with the same appearance, size and construction.</p>			

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

ANNEX 1	TABLE: Critical components information	P
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object/part No.	code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Thermistor (NTC 2)	B, C	Thinking Electronic Industrial Co., Ltd.	TSM2B104	100K Ω , 125 $^{\circ}$ C	EN 60730-1 EN 60539-1 EN 60539-2	TUV Rh 50167657

Supplementary information:

1. ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.

2. 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

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to CTF stage 1 or CTF stage 2 procedure has been used.

Other forms with a different layout but containing corresponding information are also acceptable.

Note: This page may be removed when CTF stage 1 CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

Clause	Measurement / testing	Testing / measuring equipment / material used, (Equipment ID)	Range used	Last Calibration date	Calibration due date
--	--	Ac power supply	60kVA	2019.11.12	2020.11.11
15 (Annex L.6, L.7)	Transformer heating	Paperless Recorder	-50°C ~200°C	2020.3.3	2021.3.2
		DC Electronic Load	0-30A, 0-120V	2020.3.3	2021.3.2
		Digital Power Meter	50V-300V, 0.1A-10A, 30W-300W	2020.3.3	2021.3.2

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

	ANNEX 4: Temperature measurements, thermal tests		P
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	Type reference.....:	Q8H-24V-75W	—
	Load used	Equivalent load or LED module	—
	Mounting position of luminaire	On the black testing board	—
	Ta.....:	50°C	—
	- test 1: rated voltage	220-240V	—
	- test 2: test voltage(normal)	Input : 1.06×Ur=233.2V; I=0.362A; P=82.19W Output: U=23.48V; I=3.1A; Input: 1.06×Ur=254.4V; I=0.330A; P=81.86W Output: U=23.48V; I=3.1A;	—
	- test 3: test voltage(abnormal)	1. Fault condition 264V, I=0.354A, P=91.49W 2. Double the LED modules or equivalent load (Shutdown, run for 1h) 3. The output terminals shall be short-circuited. (Shutdown, run for 1h) 4.Over load: Input: U=264V, I=0.403A, P =104.2W Output can be max. loaded to 4.0A before shutdown.	—

Normal operation

temperature (°C) of part	Normal (test 2)				
	233.2V	254.4V	--	--	limit
NTC2	113.9	110.4	--	--	175
Ambient	50.0	50.0	--	--	--

Fault condition

temperature (°C) of part	normal		Abnormal		
	test 2	test 2	limit	test 3	limit
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--

Double the LED modules or equivalent load

IEC 61347-2-13					
Clause	Requirement + Test			Result - Remark	Verdict
temperature (K/°C) of part	normal			Abnormal	
	test 2	test 2	limit	test 3	limit
Shutdown, no defect impairing safety nor smoke or flammable gases produced.					
The output terminals shall be short-circuited					
temperature (K/°C) of part	normal			Abnormal	
	test 2	test 2	limit	test 3	limit
Shutdown, no defect impairing safety nor smoke or flammable gases produced.					
Over load condition					
temperature (K/°C) of part	normal			Abnormal	
	test 2	test 2	limit	test 3	limit
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--

Product: LED driver

Type Designation: See in main report



Figure 1. Top view of driver PCB of model Q8H-24V-75W-NTC

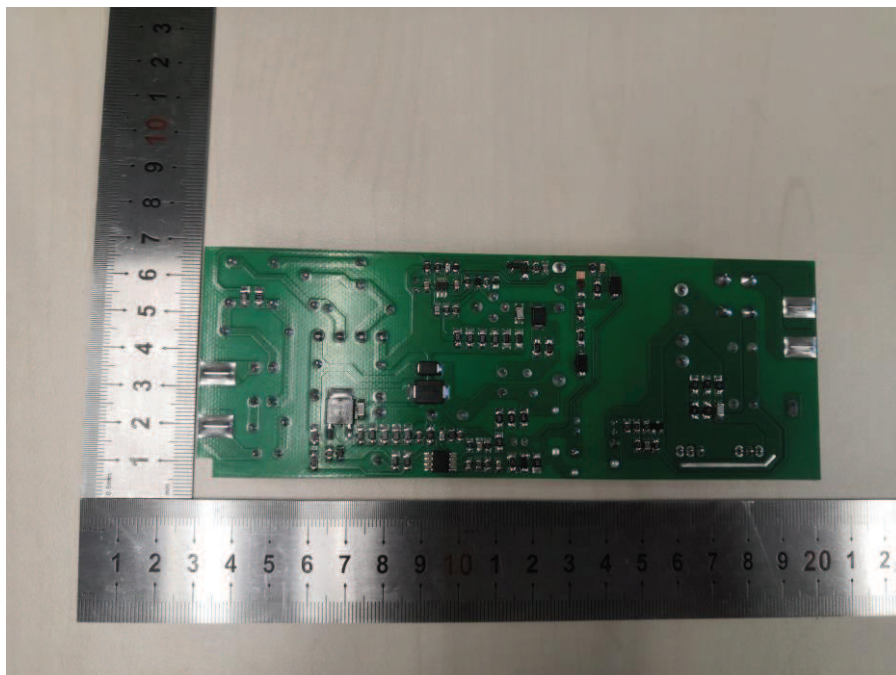


Figure 2. Bottom view of driver PCB of model Q8H-24V-75W-NTC