



7M
Solar Street Light

YANGZHOU XINTONG TRANSPORT EQUIPMENT GROUP CO., LTD.

SOLAR STREET LIGHT

Solar Light Technical Data Sheet

GENERAL INFORMATION

Model	SH2102-50W
Light Spot Height	7000 mm
Tappered	72/175mm
Bracket Length	1500mm
Weight	
Surface Treatment	Coating after Hot dip- galvanizing

Luminary

Material	Die-casting aluminum
LED Brand	3030
LED Wattage	50W
Lumen	6500 Lumens
Luminous Efficacy	(130lm/w)
Color	6000K
Temperature	
Operation Temperature	-40°C / + 80°C
Life Span	> 50,000 hrs
Water Proof	IP66
Light Material	Aluminum

Anchor Bolts

Material	Q235B
Anchor bolt	4-M22-L700
Type	Foldable design
Windload	45m/s

BATTERY

Model	XT-LP-70
Type	LifePO4
Capacity	70Ah
Voltage	12.8V
Cycle Life vs DOD%	2000 cycles at 90% DOD 4000 cycles at 40%DOD 6000cycles at 20%DOD

CONTROLLER

Manufacture	XINTONG
Type	10A



SOLAR MODULE

Type	Poly crystalline silicon
Wattage	120W

Warranty

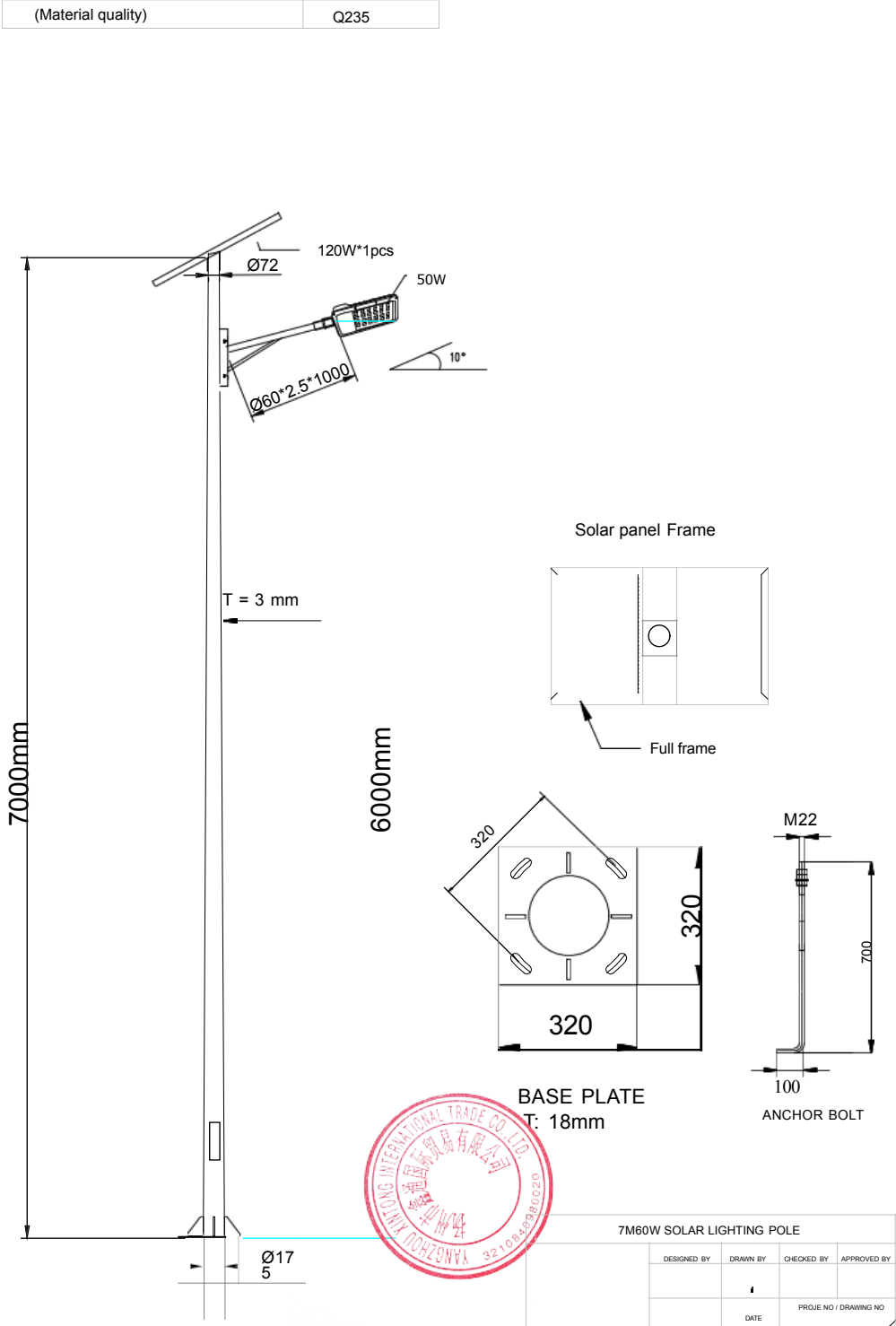
Pole	corrosion 10 years
PV Module	25 years
Battery	3 years
Electronic Parts	3 years

Protection and Security

IP 6 6 Protection
Reverse polarity protection
Voltage protection
Passive cooling

(Material quality)	Q235
--------------------	------

(Material quality)	Q235
--------------------	------



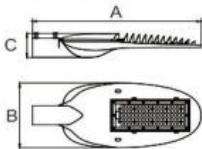
LED STREET LIGHT SH21 SERIE



Key Characteristic

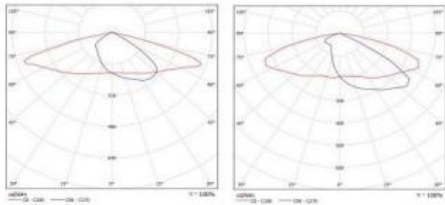
Item	SH2101	SH2102	SH2103	SH2104	SH2105
Power (W)	20-30	40-60	80-100	120-150	180-250
Efficiency (Lm/W)	120-140				
Input Voltage (V)	100-277 VAC				
CCT (K)	3000,4000,5000,5700,6500				
CRI (Ra)	>70				
PF	>0.95				
Working Temp. (°C)	-20~+50				
Housing Material	Die-casting Aluminum				

Dimension



Item	A*B*C
SH2101	362*143*54mm
SH2102	476*194*74mm
SH2103	567*233*87mm
SH2104	673*295*101mm
SH2105	742*337*114mm

Light Distribution



Project





Verification of Conformity

Certificate No.: 18ZCTE1128003EC

Applicant : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product : LED ROAD AND AREA LUMINAIRES
Brand Name : **XINTONG**
Model No. : SH2104:150W
SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W,
SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W,
SH2101:20W

Requirement	Applied Standards	Document Evidence	Result
EMC Directive	2014/30/EU Electromagnetic Compatibility	Test Report: 18ZCTE1128003ER	Conform
EMC Standards	EN 55015:2013/A1:2015 EN 61547:2009 EN 61000-3-2:2014 EN 61000-3-3:2013		



Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s). Other relevant Directives have to be observed in case they are applicable. This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market. The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s). It is recommended that the product bear the CE mark, the notified body number(s) as depicted to the right, only when all the essential requirements have been met, and has been filed with the European Commission. This certificate can be checked for validity at www.renzhengjiance.com



Shenzhen ZCT Technology Co., Ltd.

3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
☎ : 400-669-6965 ☎ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : <http://www.renzhengjiance.com>.



Shenzhen ZCT Technology Co., Ltd.

Report No.: 18ZCTS1128001TR

LED Street Light IK09 TEST REPORT

Report No.: 18ZCTS1128001TR

Trade Name : **XINTONG**

Model Number : SH2104:150W

Prepared for : Yangzhou Xintong Transport Equipment Group Co., Ltd.

Address : Yangzhou Xintong Transport Equipment Group Co., Ltd.,
Guoji Industrial Zone, Songqiao Town, Gaoyou City,
Yangzhou City, Jiangsu Province, China

Test Date: 2018-12-03 to 2018-012-06

Date of Report : 2018-012-06

This test report consists of 5 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by ZCT. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to ZCT within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.

Prepared by:

Jack Yang

Reviewed by:

Jason Wu

Approved by:



Page 1 of 5





Shenzhen ZCT Technology Co., Ltd.

Report No.: 18ZCTS1128001TR

TEST REPORT
IEC 62262:2002
Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)

Testing Laboratory Name : Shenzhen ZCT Technology Co.,Ltd.
Address : 3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
Testing location : Shenzhen ZCT Technology Co.,Ltd.
Applicant's Name : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer :Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address :Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Standard..... : IK09 (IEC 62262:2002)
Test Result: Pass
After the test, there is no damage appearance on the sample.
Procedure deviation : N/A
Non-standard test method : N/A
Type of test object : LED ROAD AND AREA LUMINAIRES
Trademark: **XINTONG**
Model/type reference: SH2104:150W
SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W,
SH2103:90W, SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W,
SH2101:30W, SH2101:20W
Description: Normal

Page 2 of 5

Shenzhen ZCT Technology Co., Ltd.
www.renzhengjiance.com.

Add: 3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
Tel: 400-669-6965 Tel: 86-755-23702323 Email: admin@renzhengjiance.com





Test : IK09

Ambient temperature 25℃Relative Humidity 70%RH

1 Testing Equipment:

Description	Model	No.	Calibration
Falling ball impact tester	SH2104:150W	/	Dec. 15, 2018

2 Test remark & notest:

- (1) Place the sample on the ground, drop the falling-ball which weight is 5Kg to impact the surface of the sample from a hight of 400 mm, the impact energy is 20 J.
- (2) Impact 5 points on the mirror surface of the sample each for once.
- (3) Check the sample after the test.





ANNEX : Photo-documentation

Fig.1 Over view

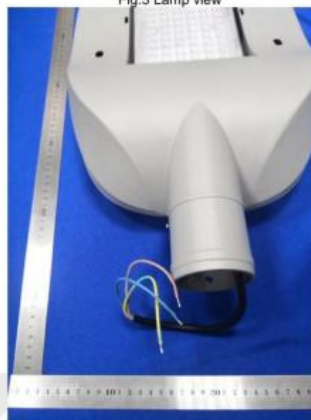


Fig.2 Over view





Fig.3 Lamp view



====End of Report====





Verification of Conformity

Certificate No.: 18ZCTS1128006LC

Applicant : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product : LED ROAD AND AREA LUMINAIRES
Brand Name : **XINTONG**
Model No. : SH2104:150W
Additional Model NO. : SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W, SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W, SH2101:20W

Requirement	Applied Standards	Document Evidence	Result
LVD Directive	2014/35/EU Low Voltage	Test Report: 18ZCTS1128006LR	Conform
LVD Standards	EN 60598-2-3:2003+A1:2011 EN 60598-1:2015+AC:2016		



Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s). Other relevant Directives have to be observed in case they are applicable. This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market. The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s). It is recommended that the product bear the CE mark, the notified body number(s) as depicted to the right, only when all the essential requirements have been met, and has been filed with the European Commission. This certificate can be checked for validity at www.renzhengjiance.com



Shenzhen ZCT Technology Co., Ltd.

3/F, Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
☎ : 400-669-6965 ☎ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : <http://www.renzhengjiance.com>



Verification of Conformity

Certificate No.: 18ZCTS1128006LC

Applicant : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product : LED ROAD AND AREA LUMINAIRES
Brand Name : **XINTONG**
Model No. : SH2104:150W
Additional : SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W,
Model NO. : SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W, SH2101:20W

Requirement	Applied Standards	Document Evidence	Result
LVD Directive	2014/35/EU Low Voltage	Test Report: 18ZCTS1128006LR	Conform
LVD Standards	EN 60598-2-3:2003+A1:2011 EN 60598-1:2015+AC:2016		



Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s).

Other relevant Directives have to be observed in case they are applicable.

This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market.

The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s).

It is recommended that the product bear the CE mark, the notified body number(s) as depicted to the right, only when all the essential requirements have been met, and has been filed with the European Commission. This certificate can be checked for validity at www.renzhengjiance.com



Shenzhen ZCT Technology Co., Ltd.

3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
☎ : 400-669-6965 ☎ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : http://www.renzhengjiance.com.



Verification of Conformity

Certificate No.: 18ZCTS1128006LC

Applicant : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product : LED ROAD AND AREA LUMINAIRES
Brand Name : **XINTONG**
Model No. : SH2104:150W
Additional : SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W,
Model NO. : SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W, SH2101:20W

Requirement	Applied Standards	Document Evidence	Result
LVD Directive	2014/35/EU Low Voltage	Test Report: 18ZCTS1128006LR	Conform
LVD Standards	EN 60598-2-3:2003+A1:2011 EN 60598-1:2015+AC:2016		



Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s).

Other relevant Directives have to be observed in case they are applicable.

This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market.

The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s).

It is recommended that the product bear the CE mark, the notified body number(s) as depicted to the right, only when all the essential requirements have been met, and has been filed with the European Commission. This certificate can be checked for validity at www.renzhengjiance.com







Shenzhen ZCT Technology Co., Ltd.

3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
☎ : 400-669-6965 ☎ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : http://www.renzhengjiance.com.



TEST REPORT for
NSS Test according to EN ISO 9227: 2012:
Corrosion tests in artificial atmospheres – Salt spray tests

Report Reference No.....:	18ZCTS1128002TR
Tested by (printed name and signature).....:	Teresa Wu 
Reviewer by (printed name and signature).....:	Jason Wu 
Approved by (printed name and signature).....:	Tomy Wu 
Date of issue.....:	2018-12-06
Total number of pages.....:	6 pages
Testing Laboratory Name.....:	Shenzhen ZCT Technology Co., Ltd.
Address.....:	3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
Applicant.....:	Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address.....:	Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer.....:	Same as applicant
Test item description.....:	LED ROAD AND AREA LUMINAIRES
Trade Mark.....:	
Model/Type reference.....:	SH2104:150W SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W, SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W, SH2101:20W
Material.....:	Metal coated with black paint, metal screw and metal rivet
Test sample.....:	LED ROAD AND AREA LUMINAIRES



General remarks:

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 testing laboratory.

- test conditions does meet the requirement.....:P (Pass)

- test conditions does not meet the requirement.....:F (Fail)

Testing Date:

Date of receipt of test item.....: 2018-10-19

Date (s) of performance of tests.....: 2018-10-19 to 2018-12-06

Testing requirement:**1. Preparation of the sodium chloride solution:**

Dissolve a sufficient mass of sodium chloride in distilled or deionized water with a conductivity not higher than $20 \mu\text{S}/\text{cm}$ at $25 \pm 2 \text{ }^{\circ}\text{C}$ to produce a concentration of $50 \text{ g/l} \pm 1 \text{ g/l}$. The sodium chloride concentration of the sprayed solution collected shall be $50 \text{ g/l} \pm 1 \text{ g/l}$.

2. Test specimens pre-treatment:

Before testing, the specimens shall be cleaned carefully with a hydrocarbon solvent, but not include the use of any abrasives or solvents which may attack the surface of the specimens

3. NSS test requirement for this standard:

Adjust the pH of the salt solution (3.1) so that the pH of the sprayed solution collected within the test cabinet is 6.5 to 7.2 at $25 \pm 2 \text{ }^{\circ}\text{C}$. Check the pH using electrometric measurement or in routine checks, with a short-range pH paper, which can be read in increments of 0.3 pH units or less. Make any necessary correction by adding hydrochloric acid, sodium hydroxide or sodium bicarbonate solution of analytical grade.

Possible changes in pH may result from loss of carbon dioxide from the solution when it is sprayed. Such changes may be avoided by reducing the carbon dioxide content of the solution by, for example, heating it to a temperature above $35 \text{ }^{\circ}\text{C}$ before it is placed in the apparatus, or by making the solution using freshly boiled water.



Description of Testing conditions:		P
Sample placed	At an angle 15° to 25° to the vertical.	P
Temperature of test cabinet	35 °C ±2 °C	P
Concentration of sodium chloride (collected solution)	50 g/l ±1g/l	P
Average collection rate for a horizontal collecting area of 80 cm ²	1,5 ml/h ±0,5 ml/h	P
pH (collected solution)	6,5 to 7,2 for Neutral salt spray (NSS)	P
Duration of tests	1000 hours (according to the requirements of applicant)	P

Treatment of specimens after test:		P
<p>At the end of the test period, remove the test specimens from the cabinet and allow them to dry for 0,5 h to 1 h before rinsing, in order to reduce the risk of removing corrosion products. Before they are examined, carefully remove the residues of spray solution from their surfaces. A suitable method is to rinse or dip the test specimens gently in clean running water, at a temperature not exceeding 40 °C, and then to dry them immediately in a stream of air, at an overpressure not exceeding 200 kPa and at a distance of approximately 300 mm.</p>		P

Test results:	
1) Original appearance for testing specimens	See appendix photos No.1
2) Preparation of the testing specimens	<p>--Using a clean soft brush to Clean the specimens with an hydrocarbon</p> <p>--After cleaning, rinse the reference specimens with fresh solvent and then dry them.</p>
3) The time when appeared rust	<p>1. Metal rivet</p> <p>2. Metal screw</p> <p>(Observed the test result of sample after 48h test)</p>
4) The frequency and number of specimen location permutations	One sample used
5) Appearance after the test	See appendix photos No.2, No.3, No.4 No.5
<p>Note: After the testing, There were a little of rust on the test specimens.</p>	



Degree of rusting was evaluated with reference to ISO 10289: 1999

Part of Sample	Degree of Rusting
Metal coated with black paint	10
Metal screw	5
Metal rivet	3

Degree of Rusting	Area of Defects (%)
10	No defects
9	$0 < A < 0.1$
8	$0.1 < A < 0.25$
7	$0.25 < A < 0.5$
6	$0.5 < A < 1.0$
5	$1.0 < A < 2.5$
4	$2.5 < A < 5.0$
3	$5.0 < A < 10$
2	$10 < A < 25$
1	$25 < A < 50$
0	$50 < A$



Appendix for photos:



Photo 1 General appearance of LED ROAD AND AREA LUMINAIRE



Photo 2 General appearance of LED ROAD AND AREA LUMINAIRE

-----End report-----





Verification of Conformity

Certificate No.: 18ZCTE1128003EC

Applicant : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone,
Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone,
Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product : LED ROAD AND AREA LUMINAIRES
Brand Name : **XINTONG**
Model No. : SH2104:150W
SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W,
SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W,
SH2101:20W

Requirement	Applied Standards	Document Evidence	Result
EMC Directive	2014/30/EU Electromagnetic Compatibility	Test Report: 18ZCTE1128003ER	Conform
EMC Standards	EN 55015:2013/A1:2015 EN 61547:2009 EN 61000-3-2:2014 EN 61000-3-3:2013		



Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s). Other relevant Directives have to be observed in case they are applicable. This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market. The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s). It is recommended that the product bear the CE mark, the notified body number(s) as depicted to the right, only when all the essential requirements have been met, and has been filed with the European Commission. This certificate can be checked for validity at www.renzhengjiance.com



Shenzhen ZCT Technology Co., Ltd.

3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
☎ : 400-669-6965 ☎ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : <http://www.renzhengjiance.com>.



Shenzhen ZCT Technology Co., Ltd.

Report No.: 18ZCTS1128001TR

LED Street Light IK09 TEST REPORT

Report No.: 18ZCTS1128001TR

Trade Name : **XINTONG**

Model Number : SH2104:150W

Prepared for : Yangzhou Xintong Transport Equipment Group Co., Ltd.

Address : Yangzhou Xintong Transport Equipment Group Co., Ltd.,
Guoji Industrial Zone, Songqiao Town, Gaoyou City,
Yangzhou City, Jiangsu Province, China

Test Date: 2018-12-03 to 2018-012-06

Date of Report : 2018-012-06

This test report consists of 5 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by ZCT. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to ZCT within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.

Prepared by:

Jack Yang

Reviewed by:

Jason Wu

Approved by:



Page 1 of 5





Shenzhen ZCT Technology Co., Ltd.

Report No.: 18ZCTS1128001TR

TEST REPORT
IEC 62262:2002
Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)

Testing Laboratory Name	: Shenzhen ZCT Technology Co.,Ltd.
Address	: 3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
Testing location	: Shenzhen ZCT Technology Co.,Ltd.
Applicant's Name	: Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address	: Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer	:Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address	:Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Standard.....	: IK09 (IEC 62262:2002)
Test Result	Pass
	After the test, there is no damage appearance on the sample.
Procedure deviation	: N/A
Non-standard test method	: N/A
Type of test object	: LED ROAD AND AREA LUMINAIRES
Trademark	XINTONG
Model/type reference	SH2104:150W SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W, SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W, SH2101:20W
Description	Normal

Page 2 of 5

Shenzhen ZCT Technology Co., Ltd.
www.renzhengjiance.com.

Add: 3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
Tel: 400-669-6965 Tel: 86-755-23702323 Email: admin@renzhengjiance.com





Test : IK09

Ambient temperature 25℃Relative Humidity 70%RH

1 Testing Equipment:

Description	Model	No.	Calibration
Falling ball impact tester	SH2104:150W	/	Dec. 15, 2018

2 Test remark & notest:

- (1) Place the sample on the ground, drop the falling-ball which weight is 5Kg to impact the surface of the sample from a hight of 400 mm, the impact energy is 20 J.
- (2) Impact 5 points on the mirror surface of the sample each for once.
- (3) Check the sample after the test.





ANNEX : Photo-documentation

Fig.1 Over view



Fig.2 Over view





Fig.3 Lamp view



====End of Report====





Verification of Conformity

Certificate No.: 18ZCTS1128006LC

Applicant : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product : LED ROAD AND AREA LUMINAIRES
Brand Name : **XINTONG**
Model No. : SH2104:150W
Additional Model NO. : SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W, SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W, SH2101:20W

Requirement	Applied Standards	Document Evidence	Result
LVD Directive	2014/35/EU Low Voltage	Test Report: 18ZCTS1128006LR	Conform
LVD Standards	EN 60598-2-3:2003+A1:2011 EN 60598-1:2015+AC:2016		



Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s). Other relevant Directives have to be observed in case they are applicable. This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market. The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s). It is recommended that the product bear the CE mark, the notified body number(s) as depicted to the right, only when all the essential requirements have been met, and has been filed with the European Commission. This certificate can be checked for validity at www.renzhengjiance.com



Shenzhen ZCT Technology Co., Ltd.

3/F, Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
☎ : 400-669-6965 ☎ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : <http://www.renzhengjiance.com>



Verification of Conformity

Certificate No.: 18ZCTS1128006LC

Applicant : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product : LED ROAD AND AREA LUMINAIRES
Brand Name : **XINTONG**
Model No. : SH2104:150W
Additional : SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W,
Model NO. : SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W, SH2101:20W

Requirement	Applied Standards	Document Evidence	Result
LVD Directive	2014/35/EU Low Voltage	Test Report: 18ZCTS1128006LR	Conform
LVD Standards	EN 60598-2-3:2003+A1:2011 EN 60598-1:2015+AC:2016		



Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s).

Other relevant Directives have to be observed in case they are applicable.

This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market.

The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s).

It is recommended that the product bear the CE mark, the notified body number(s) as depicted to the right, only when all the essential requirements have been met, and has been filed with the European Commission. This certificate can be checked for validity at www.renzhengjiance.com



Shenzhen ZCT Technology Co., Ltd.

3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
☎ : 400-669-6965 ☎ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : <http://www.renzhengjiance.com>



Verification of Conformity

Certificate No.: 18ZCTS1128006LC

Applicant : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer : Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address : Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product : LED ROAD AND AREA LUMINAIRES
Brand Name : **XINTONG**
Model No. : SH2104:150W
Additional : SH2104:140W, SH2104:130W, SH2104:120W, SH2103:100W, SH2103:90W,
Model NO. : SH2103:80W, SH2102:60W, SH2102:50W, SH2102:40W, SH2101:30W, SH2101:20W

Requirement	Applied Standards	Document Evidence	Result
LVD Directive	2014/35/EU Low Voltage	Test Report: 18ZCTS1128006LR	Conform
LVD Standards	EN 60598-2-3:2003+A1:2011 EN 60598-1:2015+AC:2016		



Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s).

Other relevant Directives have to be observed in case they are applicable.

This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market.

The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s).



It is recommended that the product bear the CE mark, the notified body number(s) as depicted to the right, only when all the essential requirements have been met, and has been filed with the European Commission. This certificate can be checked for validity at www.renzhengjiance.com



Shenzhen ZCT Technology Co., Ltd.

3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
☎ : 400-669-6965 ☎ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : http://www.renzhengjiance.com.

TEST REPORT for **NSS Test according to EN ISO 9227: 2012:** **Corrosion tests in artificial atmospheres – Salt spray tests**

Report Reference No.....	18ZCTS1128002TR
Tested by (printed name and signature).....	Teresa Wu 
Reviewer by (printed name and signature).....	Jason Wu
Approved by (printed name and signature).....	Tomy Wu
Date of issue.....	2018-12-06
Total number of pages.....	6 pages
Testing Laboratory Name.....	Shenzhen ZCT Technology Co., Ltd.
Address.....	3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
Applicant.....	Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address.....	Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer.....	Same as applicant
Test item description.....	LED ROAD AND AREA LUMINAIRES
Trade Mark.....	
Model/Type reference.....	SH2104:150W SH2104:140W,SH2104:130W,SH2104:120W,SH2103:100W,SH2103:90W,SH2103:80W,SH2102:60W,SH2102:50W,SH2102:40W,SH2101:30W,SH2101:20W
Material.....	Metal coated with black paint, metal screw and metal rivet
Test sample.....	LED ROAD AND AREA LUMINAIRES



General remarks:

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 testing laboratory.

- test conditions does meet the requirement.....:P (Pass)

- test conditions does not meet the requirement.....:F (Fail)

Testing Date:

Date of receipt of test item.....: 2018-10-19

Date (s) of performance of tests.....: 2018-10-19 to 2018-12-06

Testing requirement:**1. Preparation of the sodium chloride solution:**

Dissolve a sufficient mass of sodium chloride in distilled or deionized water with a conductivity not higher than $20 \mu\text{S}/\text{cm}$ at $25 \pm 2^\circ\text{C}$ to produce a concentration of $50 \text{ g/l} \pm 1 \text{ g/l}$. The sodium chloride concentration of the sprayed solution collected shall be $50 \text{ g/l} \pm 1 \text{ g/l}$.

2. Test specimens pre-treatment:

Before testing, the specimens shall be cleaned carefully with a hydrocarbon solvent, but not include the use of any abrasives or solvents which may attack the surface of the specimens

3. NSS test requirement for this standard:

Adjust the pH of the salt solution (3.1) so that the pH of the sprayed solution collected within the test cabinet is 6.5 to 7.2 at $25 \pm 2^\circ\text{C}$. Check the pH using electrometric measurement or in routine checks, with a short-range pH paper, which can be read in increments of 0.3 pH units or less. Make any necessary correction by adding hydrochloric acid, sodium hydroxide or sodium bicarbonate solution of analytical grade.

Possible changes in pH may result from loss of carbon dioxide from the solution when it is sprayed. Such changes may be avoided by reducing the carbon dioxide content of the solution by, for example, heating it to a temperature above 35°C before it is placed in the apparatus, or by making the solution using freshly boiled water.



Description of Testing conditions:		P
Sample placed	At an angle 15° to 25° to the vertical.	P
Temperature of test cabinet	35 °C ±2 °C	P
Concentration of sodium chloride (collected solution)	50 g/l ±1g/l	P
Average collection rate for a horizontal collecting area of 80 cm ²	1,5 ml/h ±0,5 ml/h	P
pH (collected solution)	6,5 to 7,2 for Neutral salt spray (NSS)	P
Duration of tests	1000 hours (according to the requirements of applicant)	P

Treatment of specimens after test:		P
<p>At the end of the test period, remove the test specimens from the cabinet and allow them to dry for 0,5 h to 1 h before rinsing, in order to reduce the risk of removing corrosion products. Before they are examined, carefully remove the residues of spray solution from their surfaces. A suitable method is to rinse or dip the test specimens gently in clean running water, at a temperature not exceeding 40 °C, and then to dry them immediately in a stream of air, at an overpressure not exceeding 200 kPa and at a distance of approximately 300 mm.</p>		P

Test results:	
1) Original appearance for testing specimens	See appendix photos No.1
2) Preparation of the testing specimens	<p>--Using a clean soft brush to Clean the specimens with an hydrocarbon</p> <p>--After cleaning, rinse the reference specimens with fresh solvent and then dry them.</p>
3) The time when appeared rust	<p>1. Metal rivet</p> <p>2. Metal screw</p> <p>(Observed the test result of sample after 48h test)</p>
4) The frequency and number of specimen location permutations	One sample used
5) Appearance after the test	See appendix photos No.2, No.3, No.4 No.5
<p>Note: After the testing, There were a little of rust on the test specimens.</p>	



Degree of rusting was evaluated with reference to ISO 10289: 1999

Part of Sample	Degree of Rusting
Metal coated with black paint	10
Metal screw	5
Metal rivet	3

Degree of Rusting	Area of Defects (%)
10	No defects
9	$0 < A < 0.1$
8	$0.1 < A < 0.25$
7	$0.25 < A < 0.5$
6	$0.5 < A < 1.0$
5	$1.0 < A < 2.5$
4	$2.5 < A < 5.0$
3	$5.0 < A < 10$
2	$10 < A < 25$
1	$25 < A < 50$
0	$50 < A$



Appendix for photos:



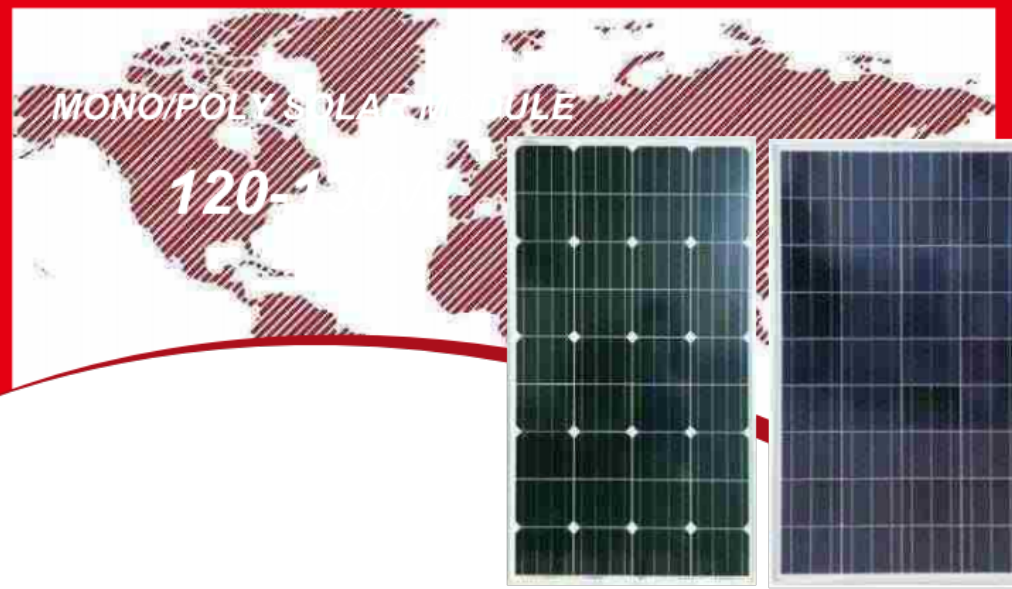
Photo 1 General appearance of LED ROAD AND AREA LUMINAIRES



Photo 2 General appearance of LED ROAD AND AREA LUMINAIRES

-----End report-----





o Bypass diode minimizes the power loss due to shading.

PRODUCT FEATURE

- o The conversion efficiency of solar cell is above 18.8%.
- o white tempered glass ,EVA resin,weatherproof film and an oxidized aluminum frame to provide efficient protection from the severest environmental conditions.
- o waterproof. perfect for grid applications.
- o product guarantee 10 years.

•

Quality Assurance

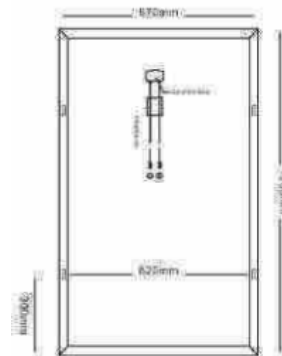
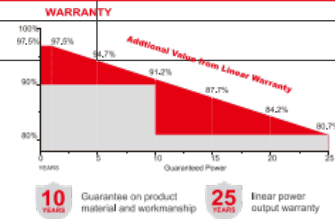
- o Electrical Insulation test
- o outdoor exposure test
- o Hot-spot endurance test
- o Uv-exposure
- o Thermal cycling test
- o Humidity freeze test
- o Damp heat Test
- o Robustness of terminations test
- o wet leakage current test
- o Mechanical load test
- o Hail impact test
- o Bypass diode the rma test

Electric Performance Typical Performance Characteristics

short circuit current Temperature coefficient	%/°C	0.06
open circuit voltage Temperature coefficient	%/°C	-0.34
Maximum power Temperature coefficient	%/°C	-0.47
performance warranty : 90%output , 12 years		
80%output , 25 years		

PRODUCT SPECIFICATION

Type Of Module	NB-120W	NB-130W
Maximum Power (W)	120	130
Tolerance (%)	± 3%	± 3%
Open-Circuit Voltage (V)	21.78	22.39
Short Circuit Current (A)	7.00	7.38
Maximum Power Voltage (V)	18.00	18.50
Maximum Power Current (A)	6.67	7.03
Module Efficiency (%)	14.93	16.17
Solar Cell Efficiency (%)	17.76	19.25
Series Fuse Rating (A)	15	15
Terminal Box	IP65	IP65
Maximum system voltage (V)	DC1000	DC1000
Operating Temperature(°C)	-40°C --85°C	-40°C --85°C
Dimension	1200*670*30MM	1200*670*30MM
Weight	9.2KG/PCS	9.2KG/PCS
Packing	2 pcs in one carton	2 pcs in one carton
Electrical Characteristics		
WARRANTY		



Gen4

SR-DM Series DM60/120/160/200(-R/-W)

Waterproof All-in-one Constant Current MPPT Charge Controller



SR-DM60-R/W

SR-DM120-R/W

SR-DM160-R/W

SR-DM200-R/W

Main Features

- Using MovingTrack MPPT maximum power tracking technology, higher tracking efficiency and faster speed
- ◆Both lead-acid battery and lithium battery are applicable, operating parameters can be set by remote control;
- ◆Using UltraGreen power control technology with extremely low power consumption and sleep current
- ◆Lead-acid battery multi-stage constant voltage charging with temperature compensation;
- ◆10-period programmable load power/time control;
- ◆Battery charge and discharge high and low temperature protection, with operating temperature settable;
- ◆A variety of intelligent power modes are available for choice, with load power adjustable automatically according to the battery level;
- ◆High precision digital step-up constant current control algorithm, ensuring high efficiency and high constant current accuracy;
- ◆Infrared wireless communication, allowing for setting/reading parameters, reading status, etc;
- ◆Multiple protections such as battery/PV reverse polarity protection, LED short-circuit/open-circuit/limited power protection, etc;
- ◆Extensible to IoT remote communication monitoring function;
- ◆Full aluminum housing, IP67 waterproof rating, applicable to a variety of harsh environments.

Products selection table

Product models	Description
DM-R/W	MPPT Solar Charge Controller (-R: infrared remote control; -W: wireless remote control)
DM-UL	With IoT remote control (built-in Lorawan module)
DM-NB	With IoT remote control (built-in NB-IoT module)
DM-GP	With IoT remote control (built-in GPRS module)
DM-BT	With Bluetooth remote control (built-in Bluetooth module)
DM-C	With IoT remote control (RS485 interface, external communication module is required)
DM-CT	With IoT remote control (TTL interface, external communication module is required)

Indicator and remote control status

The DM series controllers have three red indicators

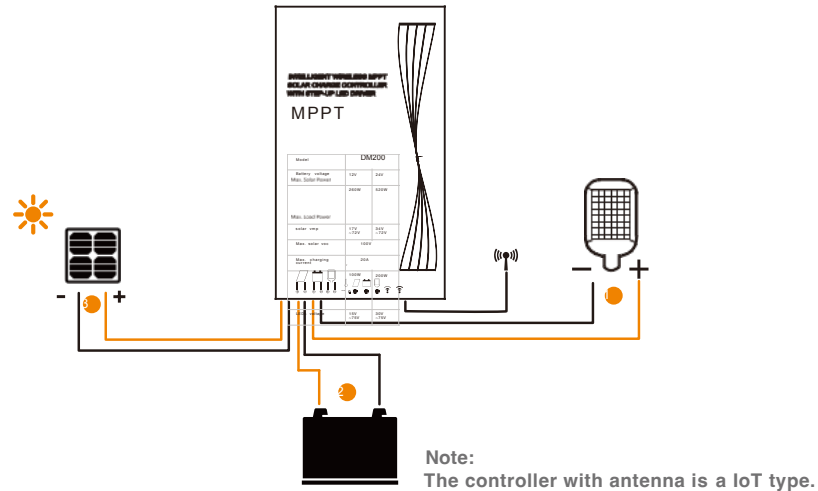
Three red indicators:

Indicator	Status	Description	Remote control system status
PV indicator	Steady on	Solar panel voltage is higher than light control voltage	Idle
	Off	Solar panel voltage is lower than light control voltage	Idle
	Double flash	Fully charged	Fully charged
	Slow flash	In charging	Charging
	Quick flash	BMS protection or BAT overvoltage or PV overvoltage or over temperature (ambient temperature) or power/ current limited charging	E-BMS Battery overvoltage PV panel overvoltage Over temperature Overcurrent
BAT indicator	Steady on	Battery works properly	Idle
	Off	Battery is not connected or lithium battery protection board over discharge protection	
	Quick flash	Battery over-discharge	Over discharge
LOAD indicator	Steady on	Load is turned on	Discharging
	Off	Load is turned off	Idle
	Slow flash	Load is open circuited	Open circuit
	Quick flash	Load is short circuited	Short circuit

Electrical wiring diagrams

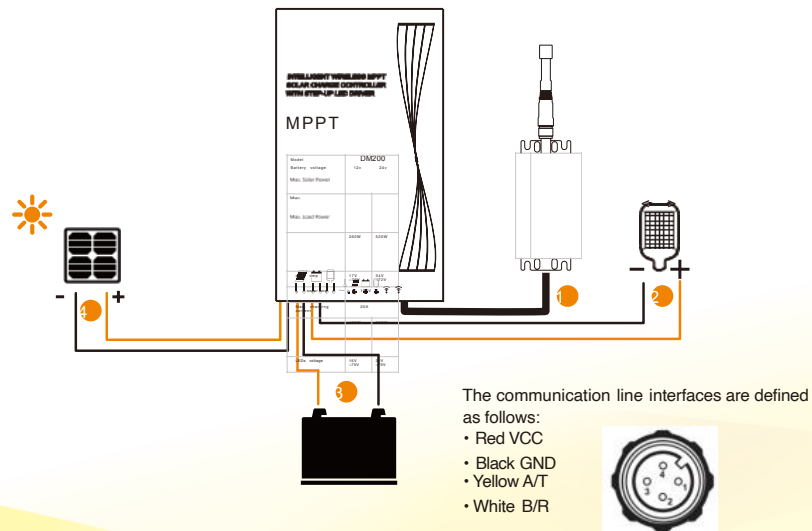
A. Wiring diagram of the controller with built-in IoT module

Wiring sequence: Firstly connect the load, then the battery and finally the solar panel.

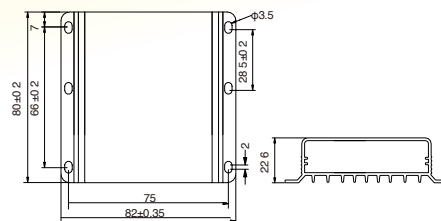


B. Wiring diagram of the controller with external IoT module

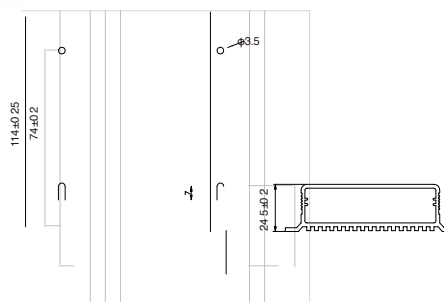
Wiring sequence: Firstly connect the external IoT module, then the load, then the battery and finally the solar panel.



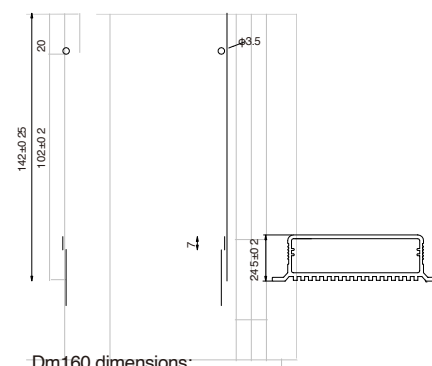
Installation method



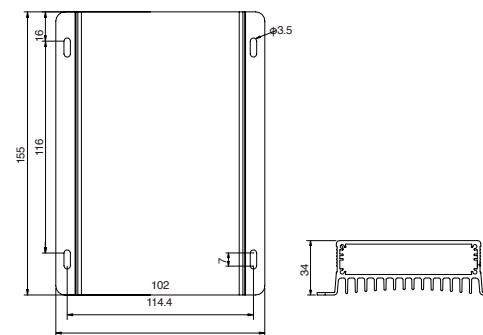
Dm60 dimensions:
Overall dimensions: 80*82*22.6mm
Mounting dimensions: 66*75mm
Mounting hole diameter: $\phi 3.5$ mm



Dm120 dimensions:
Overall dimensions: 114*88.3*24.5mm
Mounting dimensions: 74*82.3mm
Mounting hole diameter: $\phi 3.5$ mm



Dm160 dimensions:
Overall dimensions: 142*88.3*24.5mm
Mounting dimensions: 102*82.3mm
Mounting hole diameter: $\phi 3.5$ mm



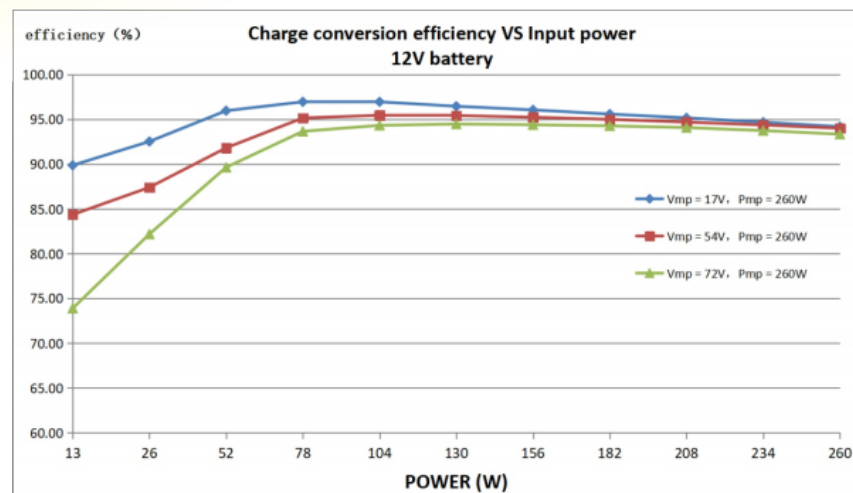
Dm200 dimensions:
Overall dimensions: 155*114.4*34mm
Mounting dimensions: 102*123mm
Mounting hole diameter: $\phi 3.5$ mm

Technical parameters

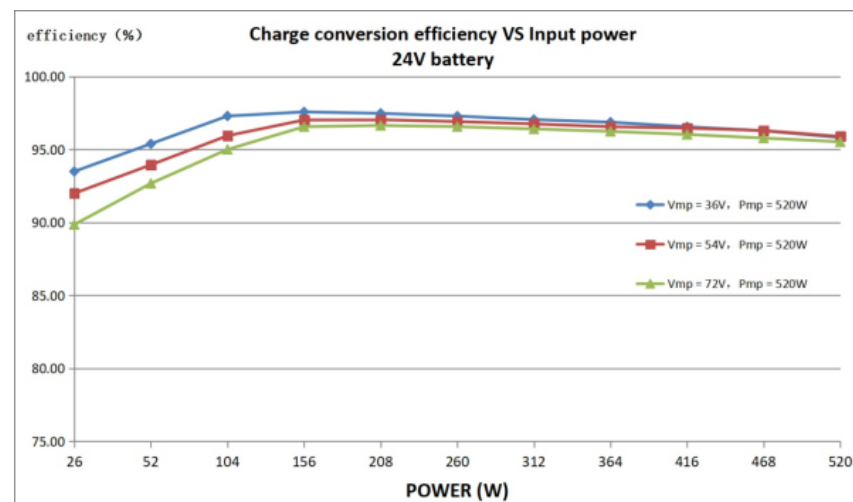
Items	Values				Adjustable	Default
Model	DM60DM120DM160DM200					
Controller type	-R: infrared remote control; -W: 2.4G wireless remote control;					
System voltage	12V		12V/24V			Lead-acid
Static power consumption	-R type: ≤5mA -W type: ≤20mA	-R type: 6mA/12V; 4mA/24V -W type: 18mA/12V; 13mA/24V		-R type: ≤10mA/12V; ≤5mA/24V -W type: ≤25mA/12V; ≤15mA/24V		
Sleep power consumption	≤1 mA					
Load current	50mA~3000mA	50mA~4200mA	50mA~5600mA	150mA~7000mA	✓	330mA
Load voltage	15V~50V	15V~60V		15V~75V		
Maximum load power	60W/12V	60W/12V; 120W/24V	80W/12V; 160W/24V	100W/12V; 200W/24V		
Load conversion efficiency	85%-96% (Typical efficiency 95%)					
Load current accuracy	≤3%±30mA					
Intelligent power	High, Moderate, Low, Auto, USE, No				✓	Medium
Load working period	9-Period + Pre-dawn lighting					
Period adjustment range	1min / 10min					
Power adjustment range	1% / 10%					
Maximum solar input power	130W/12V	130W/12V; 260W/24V 200W/12V; 400W/24V 260W/12V; 520W/24V				
Maximum charge current	10A		15A	20A		
Maximum solar input voltage	≤50V	≤60V		≤100V		
MPPT Tracking efficiency	>99%					
Charging conversion eff.	85%-98% (Typical efficiency 97%)					
Over voltage	PB-16.0V; LI-overcharge voltage +2V; × 2, 24V system					16.0V
Limited charge voltage	PB-15.5V; LI-overcharge voltage +1V; × 2, 24V system					15.5V
Equalizing charge voltage	PB-14.6V; LI-None; ×2,24V system					14.6V
Equalizing charge interval	30 days					30D
Boost charge voltage (lead-acid)	8.5V ~ 17.0V; ×2,24V system				✓	14.4V
Charge voltage (lithium)						
Floating charge voltage (lead-acid)	8.5V ~ 17.0V; ×2,24V system				✓	13.8V
Charge return voltage (lithium)						
Over discharge voltage	8.5V ~ 17.0V; ×2,24V system				✓	11.0V
Over discharge return voltage	8.5V ~ 17.0V; ×2,24V system				✓	12.5V
Temperature compensation coefficient	PB: -3.0mV/°C/2V; lithium battery: no compensation					
Light control voltage	3V ~ 11V; ×2,24V system				✓	5V
Light control delay	0S~60S/2min ~ 60min				✓	10S
High temperature charge	+40°C~+90°C				✓	65°C
Low temperature charge	0°C ~ -35°C				✓	-35°C
Operating temperature	-35°C ~ +65°C					
IP rating	IP67					
Protections	Battery reverse polarity protection, solar panel over-voltage protection, solar panel reverse polarity protection, protection, lithium battery overcharge and over-discharge protection, lithium battery BMS overcharge detection protection, over temperature protection, load open circuit and short circuit protection,					
Weight	260g	400g	510g	770g		
Controller dimensions (mm)	80*82*22.6	114*82.3*24.5	142*82.3*24.5	155*114.4*34		
Controller mounting dimensions (mm)	65.5*75	82.3*74	82.3*102	102*123		
Mounting hole diameter (mm)	Φ3.5					

A typical curve

Charge Conversion Efficiency VS Input Power -12V battery



Charge Conversion Efficiency VS Input Power -24V battery



Specifications

Battery Specification

No.	Items	Specification	Note
1	Nominal voltage	12.8V	
2	Open Circuit Voltage	13.16V~13.36V	
3	Nominal capacity	70Ah	0.2C
	Minimum capacity	68.6Ah	
4	Initial impedance	$\leq 50\text{m}\Omega$	AC 1KHz after standard Charge
5	Charge voltage	14.4V	
6	Discharge cut-off voltage	11.2V	
7	Standard charge current	8A	
8	Max. charge current	10A	
9	Standard discharge current	8A	
10	Max. discharge current	10A	
11	Operating temperature	0°C ~ +45°C	Charge
		-20°C ~ +55°C	Discharge
12	Dimension	L*W*H=210*190*370mm	

Common Performance

No	Items	Testing method and determinant standard
1	Charge Performance	The standard charge mode: under the temperature of $23\pm 2^{\circ}\text{C}$, charge the battery

		with the current of 0.2C until the voltage reaches up to 14.4V, then charge with constant voltage until the charge current $\leq 0.02C$, then stop charging.
2	Discharge Performance	When connecting with load, the battery can supply power. Charge the battery with standard charge mode, then rest for 0.5h, then discharge with 0.2C until the voltage is 11.2V, and the discharge time is required $\geq 5h$.
3	High Temperature Characteristics	Standard charge the battery, then put the battery into the constant temperature and humidity oven with $55\pm 2^{\circ}C$, then discharge with 0.2C to 11.2V. The discharge time is required $\geq 4.7h$ (95%) and the battery should no deformation and smoking.
4	Low Temperature Characteristics	Standard charge the battery, then put the battery into the constant temperature and humidity oven with $-20\pm 2^{\circ}C$, then discharge with 0.2C to 11.2V. The discharge time is required $\geq 3.2h$ (65%) and the battery should no deformation and smoking.
5	Cycle Performance	Under the temperature of $23\pm 2^{\circ}C$, charge the battery with 0.2C, when the voltage reaches up to 14.4V charge with constant voltage until the charge current $\leq 0.02C$, then stop charging, then rest for 0.5h, then discharge with 0.2C to 11.2V. Cycle with the above mode, the test shall be terminated when Discharging Capacity $< 80\%$ of Initial Capacity in three consecutive cycles. The cycle life is required ≥ 1000 times.
6	Charged Storage Characteristics	Charge the battery with 0.5C, then shift to charge with constant voltage until the voltage reaches up to 14.4V, when the charge current $\leq 0.02C$ stop charging; rest under the temperature of $23\pm 2^{\circ}C$ for 28 days then discharge with 0.5C to 11.2V. The discharge time is required $\geq 1.8h$ (90%) .

Safety Performance 产品可靠性

No	Items 项目	Testing method and determinant standard
1	Short Circuit	After charge batteries, place at $20^{\circ}C\pm 5^{\circ}C$ for 1h. Short the battery for 10min, the external circuit resistance should be less than $5m\Omega$. No explosion, No fire .

2	Vibration Test	When charges fully, the fixed cell to will vibrate the table and the clothing from will change to the circulation vibrational frequency by 1Hz rate each minute between 10 Hz 55Hz, the vibration tour will be 1.15mm. The cell will vibrate in each XYZ axis 90 minutes. No leakage, Capacity recovery rate 90% (standby 3hours) .No explosion, No fire .
3	Over-discharge test	Charge the battery. Place at 20°C±5°C for 1h, then discharge in maximum current at the same temperature until the battery is protected. No explosion, No fire .
4	Over-charge test	Charge in accordance with the following way. Charge in maximum current for until the battery is protected . No explosion, No fire.

product photo



Test Requirement

Standard test condition

Battery Pack to be tested should be new battery pack within one month after shipment from our factory and the battery pack should not be cycled more than five times before the test. Unless otherwise specified, test and measurement should be done under these conditions:

Temperature : 15°C~25°C

Relative Humidity : 45%~85%RH

Atmospheric Pressure : 86kPa~106kPa

measuring equipment implementation requirements

1.Dimension Measurement Instrument:

The dimension measurement shall be implemented by instruments with equal or more precision scale of 0.01mm.

2. Battery test system should have current accuracy within $\pm 0.1\%$, voltage accuracy within $\pm 0.5\%$ & time accuracy within $\pm 0.1\%$.

3. Temperature measurement accuracy of instruments should be within $\pm 0.5\text{ }^{\circ}\text{C}$.

4. Standard class specified in national standard or more sensitive class, with internal impedance not less than 10 K Ω .

5. Standard class specified in national standard or more sensitive class. Total resistance including ammeter and wire is less than 0.01 Ω .

6. Impedance shall be measured by a sinusoidal alternating current method (AC 1kHz LCR). Resistance is not a constant value according to the change of temperature and state of charge, and related to lead length and capacity.

7.All test equipment and measuring instruments should be passed inspection of calibration organization.

Appearance Test Standard

There shall be no such defect as scratch, flaw, crack, rust, leakage, or which may adversely affect commercial value of battery.

Storage and Shipment Requirement

Item		Criteria
Storage temperature	Short period(less than 1 month)	-10 $^{\circ}\text{C}$ ~45 $^{\circ}\text{C}$
	Medium period (less than 3 month)	-10 $^{\circ}\text{C}$ ~35 $^{\circ}\text{C}$
	Long period (more than 3 month)	0 $^{\circ}\text{C}$ ~30 $^{\circ}\text{C}$
Relative Humidity State of Charge		$\leq 75\%$ RH
		40%~60%

Battery pack must be charged every three months when long term storage, please charge the battery pack with standard charging current for 0.5h~1h to keep 40%~60% state of charge.

Warning and Caution

- 1) Do not connect the battery pack's positive (+) and negative (-) poles reversed to charger or load, Do not connect the battery pack to charger's input power source (AC power supply).
- 2) Do not let the battery pack's terminals (+ and -) contact with unnecessary wire or any metal or stored them together, that may cause the battery pack short-circuit.
- 3) Do not drive a nail in battery pack, hit the battery pack with a hammer, stamp on or throw the battery pack.
- 4) Do not disassemble or alter the batteries' outside structure.
- 5) Do not use the battery pack under blazing sun, otherwise may cause battery pack overheating then catch fire or disable.
- 6) Do not put the battery pack into fire or heat the battery pack; do not store the battery pack in high temperature environment
- 7) Do not submerge the battery pack in water or get wet in the rain, keep the battery in shady and cool place when stored.
- 8) Do not charge the battery continuously over 24 hour.
- 9) When charging or discharging the battery pack, if you find any abnormal smell or noise, you must stop the charging or discharging at once, and contact the factory.
- 10) When using the battery pack out of range of 0~50°C, the capacity may decrease, that doesn't mean the battery pack was failure.

Product liability

Consumers must comply with the requirements of the specifications strictly using the battery. Due to misuse may cause the battery overheating, fire or explosion, for no operation in accordance with the specification as a result of any accident, we are not negative any responsibility.



C E R T I F I C A T E

ATTESTATION CERTIFICATE OF ELECTROMAGNETIC COMPATIBILITY AND LOW VOLTAGE DIRECTIVES

Technical file of the company mentioned below has been observed and audit has been completed successfully.

2014/30/EU Electromagnetic Compatibility Directive and
2014/35/EU Low Voltage Directives have been taken as references for these processes

Company Name : **Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Company Address : Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Related Directives and Annex : **2014/35/EU Low Voltage Directive**
2014/30/EU Electromagnetic Compatibility Directive
Related Standards : **EN 55015:2015, EN 61547:2009, EN 61000-3-2:2014**
EN 61000-3-3:2013, EN 60598-1:2015+A1:2018
EN 60598-2-3:2003+A1:2011
Product Name : **Solar LED Street Light**
Report No and Date : **BTS-XT19399-LVD, BTS-XT19399-EMC / 19.11.2019**
Product Brand/Model/Type : **XT-10W, XT-15W, XT-20W, XT-25W, XT-30W, XT-35W, XT-40W,**
XT-45W, XT-50W, XT-60W, XT-70W, XT-80W, XT-90W, XT-100W,
XT-110W, XT-120W, XT-150W, XT-160W, XT-180W, XT-200W,
XT-220W, XT-240W, XT-250W, XT-260W, XT-280W, XT-300W

Certificate Number : **M.2019.206.C3636**
Initial Assessment Date : **18.11.2019**
Registration Date : **19.11.2019**
Reissue Date/No : **-**

Signature

UDEM International Certification
Auditing Training Centre Industry

Expiry Date : 18.11.2024

The validity of the certificate can be checked through www.udem.com.tr. The CE mark shown on the right can only be used under the responsibility of the manufacturer with the completion of EC Declaration of Conformity for all the relevant Directives. This certificate remains the property of UDEM International Certification Auditing Training Centre Industry and Trade Inc. Co. to whom it must be returned upon request. The above named firm must keep a copy of this certificate for 15 years from the registration of certificate. This certificate only covers the product(s) stated above and UDEM must be noticed in case of any changes on the product(s)

Address: Mutlukent Mahallesi 2073 Sokak (Eski 93 Sokak) No:10 Çankaya – Ankara – TURKEY
Phone: +90 0312 443 03 90 **Fax:** +90 0312 443 03 76
E-mail: info@udemitd.com.tr www.udem.com.tr





C E R T I F I C A T E

CERTIFICATE OF TECHNICAL INSPECTION

The company named above was audited by UDEM.

Company Name : **Yangzhou Xintong International Trade Co., Ltd**
Company Address : 406-409, 4th Floor, Building 2, Guotai Building, Hanjiang District, Yangzhou City, Jiangsu Province, China
Manufacturer Name : **Yangzhou Xintong Transport Equipment Group Co., Ltd**
Manufacturer Address : Guoji Industrial Concentration Area, Songqiao town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Related Standards : **EN 40-5:2002**
Product Name : **Light pole**
Report No and Date : LPTCF0915-STAND
Product Brand/Model/Type : XT-LP-1M, XT-LP-2M, XT-LP-3M, XT-LP-4M, XT-LP-5M, XT-LP-6M, XT-LP-7M, XT-LP-8M, XT-LP-9M, XT-LP-10M, XT-LP-11M, XT-LP-12M, XT-LP-13M, XT-LP-14M, XT-LP-15M, XT-LP-16M, XT-LP-17M, XT-LP-18M, XT-LP-19M, XT-LP-20M, XT-LP-21M, XT-LP-22M, XT-LP-23M, XT-LP-24M, XT-LP-25M, XT-LP-26M, XT-LP-27M, XT-LP-28M, XT-LP-29M, XT-LP-30M, XT-LP-31M, XT-LP-32M, XT-LP-33M, XT-LP-34M, XT-LP-35M, XT-LP-36M, XT-LP-37M, XT-LP-38M, XT-LP-39M, XT-LP-40M, XT-LP-45M, XT-LP-50M

Certificate Number

Initial Assessment Date

Registration Date

Reissue Date/No

Expiry Date

: **M.2022.206.C77678**

: 19.09.2022

: 20.09.2022

: -


UDEM International Certification
Auditing Training Centre Industry
and Trade Inc.Co.

The validity of the certificate can be checked at www.udemtd.com.tr. The certificate can only be used under the responsibility of the manufacturer with the completion of EC Declaration of Conformity for all the relevant Directives. This certificate remains the property of UDEM International Certification Auditing Training Centre Industry and Trade Co. Ltd. to whom it must be returned upon request. The above named firm must keep a copy of this certificate for 15 years from the registration of certificate. This certificate of only covers the product(s) stated above and UDEM must be noticed in case of any changes on the product(s).

Address: Mutlukent Mahallesi 2073 Sokak (Eski 93 Sokak) No:10 Çankaya – Ankara – TURKEY
Phone: +90 0312 443 03 90 **Fax:** +90 0312 443 03 76

E-mail: info@udemtd.com.tr www.udem.com.tr





QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 11424Q47089R3M

This is to certify that the Quality Management System of

YANGZHOU XINTONG TRAFFIC EQUIPMENT GROUP CO., LTD.

Unified Social Credit Code: 91321084731752249G

Registered Address: Guoji Industrial Cluster Zone, Songqiao Town, Gaoyou City

Production/Office Address: Guoji Industrial Cluster Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China

Has been audited to conform to the following Quality
Management System standard

GB/T19001-2016/ISO9001:2015

The Applicable Scope

The production of outdoor lighting fixtures over 2.5 meters high, high pole lights, steel lighting poles and traffic equipment (traffic guardrails, road traffic signs, road traffic signal lights, road traffic signal controllers, mobile LED road traffic information display screens and road traffic signal countdown displays), the integration of computer information system (including the development of application software), the design, construction and maintenance of security projects

Date of initial issuance: Aug. 11, 2015

Date of issuance: Jul. 12, 2024

Date of expiry: Aug. 08, 2027

Issued by: *Wu Fongnu*

Beijing East Allreach Certification Center Co., Ltd.



中国认可
国际互认
管理体系
MANAGEMENT SYSTEM
CNAS C114-M

The certificate will remain valid only if the certified organization accepts surveillance audit at regular intervals and is audited to be qualified. The information of this certificate is available at EACC website (www.eacc.com.cn) and CNCA's official website (www.cnca.gov.cn), and it's also available by scanning the QR Code in the lower right corner.

Address: 1st Floor, No. 121 Building, No. 17, Jingshengnansi Street, Jinqiao Science & Technology Industrial Base, Tongzhou Park of Zhongguancun Science & Technology Zone, Tongzhou District, Beijing 101102



official account



certificate query



ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 11422E44090R2M

This is to certify that the Environmental Management System of

YANGZHOU XINTONG TRAFFIC EQUIPMENT GROUP CO., LTD.

Unified Social Credit Code: 91321084731752249G

Registered Address: Guoji Industrial Cluster Zone, Songqiao Town, Gaoyou City

Production/Office Address: Guoji Industrial Cluster Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China

Has been audited to conform to the following Environmental
Management System standard

GB/T24001-2016/ISO14001:2015

The Applicable Scope

The production of outdoor lighting fixtures over 2.5 meters high, high pole lights, steel lighting poles and traffic equipment (traffic guardrails, road traffic signs, road traffic signal lights, road traffic signal controllers, mobile LED road traffic information display screens and road traffic signal countdown displays), the integration of computer information system (including the development of application software), the design, construction and maintenance of security projects and related environmental management activities of involved sites

Date of initial issuance: Jul. 29, 2016

Date of issuance: Jul. 05, 2022

Date of renewal: Jul. 12, 2024

Date of expiry: Jul. 27, 2025

Issued by: *Wu Fongyu*

Beijing East Allreach Certification Center Co., Ltd.



中国认可
国际互认
管理体系
MANAGEMENT SYSTEM
CNAS C114-M

The certificate will remain valid only if the certified organization accepts surveillance audit at regular intervals and is audited to be qualified. The information of this certificate is available at EACC website (www.eacc.com.cn) and CNCA's official website (www.cnca.gov.cn), and it's also available by scanning the QR Code in the lower right corner.

Address: 1st Floor, No. 121 Building, No. 17, Jingshengnansi Street, Jinjiao Science & Technology Industrial Base, Tongzhou Park of Zhongguancun Science & Technology Zone, Tongzhou District, Beijing 101102



official account



certificate query



OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 11422S24091R3M

This is to certify that the Occupational Health and Safety Management System of

YANGZHOU XINTONG TRAFFIC EQUIPMENT GROUP CO., LTD.

Unified Social Credit Code: 91321084731752249G

Registered Address: Guoji Industrial Cluster Zone, Songqiao Town, Gaoyou City

Production/Office Address: Guoji Industrial Cluster Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China

Has been audited to conform to the following Occupational Health and Safety
Management System standard

GB/T 45001-2020/ISO 45001:2018

The Applicable Scope

The production of outdoor lighting fixtures over 2.5 meters high, high pole lights, steel lighting poles and traffic equipment (traffic guardrails, road traffic signs, road traffic signal lights, road traffic signal controllers, mobile LED road traffic information display screens and road traffic signal countdown displays), the integration of computer information system (including the development of application software), the design, construction and maintenance of security projects and related occupational health and safety management activities of involved sites

Date of initial issuance: Sep. 12, 2013

Date of issuance: Jul. 05, 2022

Date of renewal: Jul. 12, 2024

Date of expiry: Aug. 22, 2025

Issued by: *Wu Fongnu*

Beijing East Allreach Certification Center Co., Ltd.



中国认可
国际互认
管理体系
MANAGEMENT SYSTEM
CNAS C114-M

The certificate will remain valid only if the certified organization accepts surveillance audit at regular intervals and is audited to be qualified. The information of this certificate is available at EACC website (www.eacc.com.cn) and CNCA's official website (www.cnca.gov.cn), and it's also available by scanning the QR Code in the lower right corner.

Address: 1st Floor, No. 121 Building, No. 17, Jingshengnansi Street, Jinqiao Science & Technology Industrial Base, Tongzhou Park of Zhongguancun Science & Technology Zone, Tongzhou District, Beijing 101102



official account



certificate query