台州锦绣电子科技有限公司
TaiZhou JinXiu Electrical Science & Technology Co,.Ltd
地址：浙江省玉环县机电园区黄泥坎 5 号楼 电话：0576-87267307 18969171798 传真：0576-87171072

承 认 书

Specification for Approval

客户名称:
Customer _____

产品名称:
Description **PV Connector**

客户料号:
Customer part NO. _____

产品型号:
JX part NO. **LJQ-3**

承认书编号:
Specification sheet NO. _____

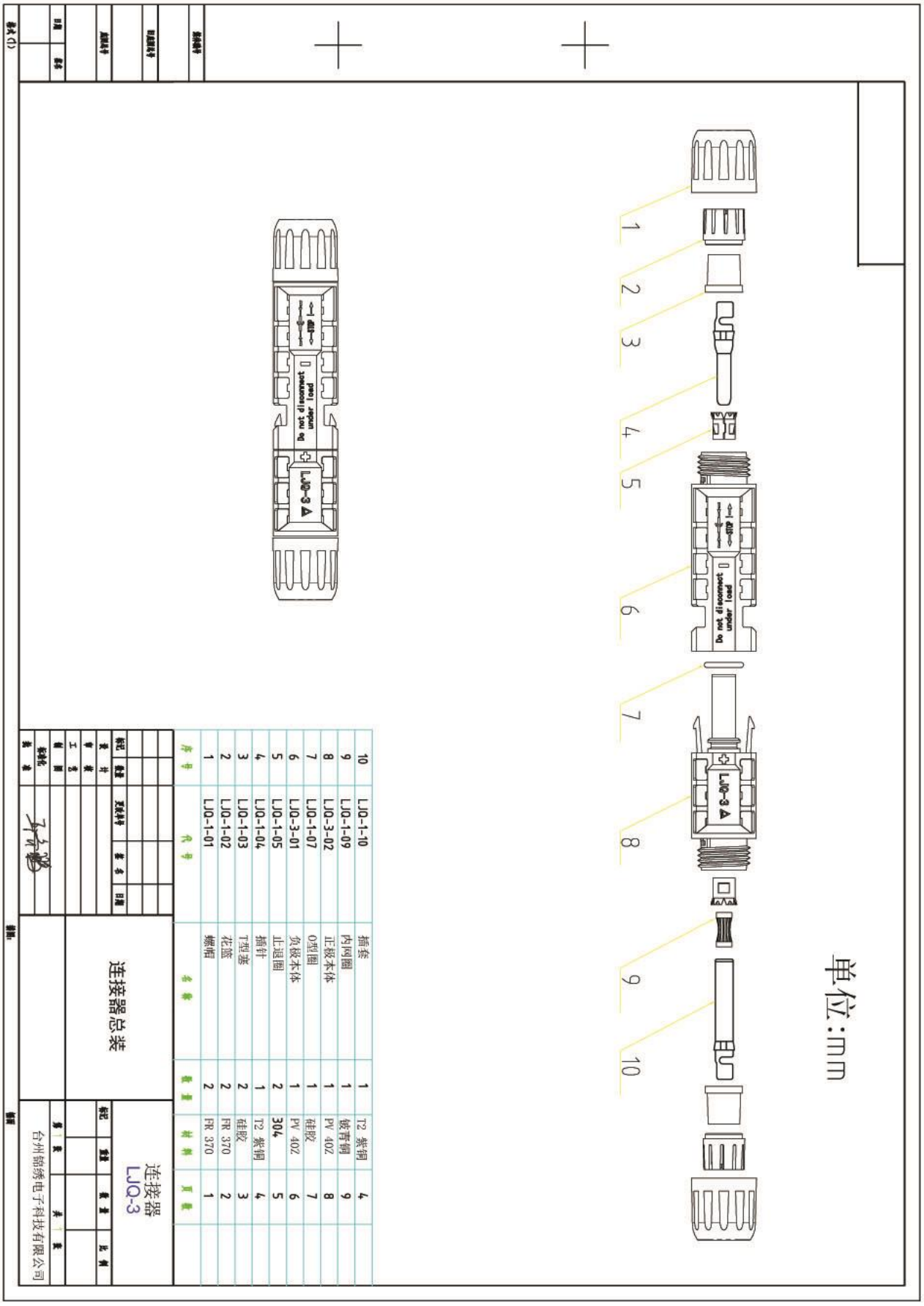
JX Approval Column			
Filling	Auditing	Approval	Confirmation Date
沈灵芝	邱齐鹏	李妙才	2017 年 12 月 20 日

Customer Approval Column			
Responsible Person	Auditing	Approval	Confirmation Result
			☐予以承认 ☐不予承认 确认日期:

TaiZhou JinXiu Electrical Science & Technology CO., LTD.

Approval Catalogue 承认书目录

Engineering Drawings 工程图：



序号	代号	名称	数量	材料	备注
10	LJQ-1-10	插套	1	T2 紫铜	4
9	LJQ-1-09	内网圈	1	镀青铜	9
8	LJQ-3-02	正极本体	1	PV 40Z	8
7	LJQ-1-07	O型圈	1	硅胶	7
6	LJQ-3-01	负极本体	1	PV 40Z	6
5	LJQ-1-05	止退圈	2	304	5
4	LJQ-1-04	插针	1	T2 紫铜	4
3	LJQ-1-03	T型塞	2	硅胶	3
2	LJQ-1-02	花篮	2	FR 370	2
1	LJQ-1-01	螺帽	2	FR 370	1

规格书 Specification

一. 产品概述 Product summary：

a) LJQ-3 光伏连接器将光伏组件产生的电流连接和输出的产品,本产品已通过了 TUV、UL 认证 。
LJQ-1 connector is the product that the current from solar module is connected and output. This product has passed TUV authentication approbation.

二. 产品特点 Product Characteristics

a) 使用寿命长,在外界环境下可使用 25 年以上 Have long useful time, can use under the external environment for more than 25 years
b) 电气防护性能好 Good electrical protection performance
c) 低接触电阻,低功耗,良好的耐冲击性能 Small contact resistance, low power consumption, good impact resistance.

三. 技术参数 Basic Parameters ：

参数 Parameter	规格 SPEC	备注 Remarks
外型尺寸 Size	L112*W 18.8*H18.8mm	After Coupling
额定电压 Rated voltage	1500V DC(TUV)	
额定电流 Rated current	30A	
额定脉冲电压 Rated impulse voltage	16kV	
接触电阻 Contact resistance	≤0.30 mΩ	
安全等级 Safety class	Class II	
使用环境范围 Use environment	Temperature:-40℃~+85℃ Humidity: ≤95%	
防护等级 Protection class	IP68	
阻燃等级 Anti-flaming level	UL94-V0	仅指塑料材质部分 Only for the plastic parts
污染等极 Pollution Class	Class II	
过电压等级 Over voltage level	Class III	
TUV 认证标准 TUV Standard	IEC 62852:2014;EN 62852:2015	R 50337596

四. 子件材料清单 Components Bill：

编号(参图面) NO.(see drawing)	名称 Part name	材质 material	用量 PC	颜色 Color	备注 Remarks
1	连接器螺帽 Cable Screw Join	PA66	2	BLACK	FR370
2	花篮 Wire Resistant	PA66	2	BLACK	FR370
3	连接器 T 型塞 SEAL	SILICONE	2	BLUE	
4	母芯 Female Core	Cu	1	-	
5	止退圈 Withdrawal Ring	SUS304	2	-	
6	母连接器 Female Connector	PPE	1	BLACK	PV40Z
7	O 型圈 O Type Ring	SILICONE	1	RED	
8	公连接器 Male Connector	PPE	1	BLACK	PV40Z
9	内网圈 Intranet Ring	Cu	1		
10	母芯 Female Core	Cu	1	-	

五. 配线规格 Suitable Cable Specification：

引用标准 Standard	牌号 Type	芯线直径 Diameter of core	芯线根数 No. of core	额定电压 Rated Voltage	电阻 resistance	工作温度 Works temperature
TUV H1Z2Z2-K	2.5	0.25mm	49	1000V AC 1500V DC	≤8.21Ω/KM	-40℃ ~+85℃
	4.0	0.30mm	56		≤5.09Ω/KM	
	6.0	0.30mm	84		≤3.39Ω/KM	
UL 4703	14AWG	0.25mm	43	1000V (90℃)	≤8.62Ω/KM	-40℃ ~+90℃
	12AWG	0.30mm	48		≤5.53Ω/KM	
	10AWG	0.30mm	76		≤3.48Ω/KM	

Remarks:

1. Cables Category: Tinplating twisting copper wire
2. Insulating layer and protection bush material :LSOH cross bonding polyolefin
3. Working Life:≥25years (Under the condition of rated working temperaturer)
4. Structure:

六. 材料规格 Material Specification：

a) PPE PV40Z

Component - Plastics E82268

ASAHI KASEI CHEMICALS CORP XYRON POLYMER

1-3-1 YAKO, KAWASAKI-KU, KAWASAKI-SHI KANAGAWA 210-0863 JP

PV40Z(f1)

Modified Polyphenylene Ether Resin (m-PPE), "Xyron", furnished as pellets

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
BK, GY	0.75	V-0	1	2	105	105	105
	2.0	V-0, 5VB	1	2	105	105	105
	2.5	V-0, 5VA	1	2	105	105	105
	3.0	V-0, 5VA	1	2	105	105	105

Comparative Tracking Index (CTI): 0

Inclined Plane Tracking (IPT): 161 min at 1.5kV

Dielectric Strength (kV/mm): -

Volume Resistivity (10^X ohm-cm) : -

High-Voltage Arc Tracking Rate (HVTR): -

High Volt, Low Current Arc Resis (D495): 6

Dimensional Stability (%): -

(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 2010-12-17
Last Revised: 2013-12-20

IEC and ISO Test Methods

Test Name	Test Method	Units	Thickness Tested (mm)	Value
Flammability	IEC 60695-11-10, IEC 60695-11-20	Class (color)	0.75	V-0 (BK, GY)
			2.0	V-0, 5VB (BK, GY)
			2.5	V-0, 5VA (BK, GY)
			3.0	V-0, 5VA (BK, GY)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m^2	-	-
ISO Izod Impact	ISO 180	kJ/m^2	-	-
ISO Charpy Impact	ISO 179-2	kJ/m^2	-	-

b) PA66 FR370

ASAHI KASEI PLASTICS SINGAPORE PTE LTD
20 Sakra Road, Jurong Island Singapore 627889. Tel: 65-6316-1777 Fax: 65-63161730

Technical Support Center 11/08/2010

Leona™ FR370 物性表

项目		测试方法	单位			Leona FR370
密度		ISO 1183	g / cm³		—	1.16
吸水率 (饱和)		(加化成方式) 23°C / 50%RH	%		湿	2.3
机械特性	拉伸强度 (屈服点)	ISO 527	MPa		干	83
					湿	55
	拉伸应变 (屈服点)	ISO 527	%		干	4.5
					湿	22
	拉伸强度 (断裂点)	ISO 527	MPa		干	80
					湿	—
	拉伸应变 (断裂点)	ISO 527	%		干	15
					湿	> 50
	拉伸系数	ISO 527	GPa		干	3.6
					湿	1.6
	抗挠强度	ISO 178	MPa		干	124
					湿	54.1
	抗挠系数	ISO 178	GPa		干	3.6
					湿	1.5
	简支梁冲击强度 (无缺口 / 带缺口)	ISO 179	KJ/m²		干	4 / 58
					湿	6 / NB
	洛氏硬度	ISO 2939	M 比例		干	85 / 120
					湿	55 / 110
热特性	线性热膨胀系数 (平行于流动方向)	ASTM D 696	X10⁻⁵/ K		干	7
	热变形温度	ISO 75	°C	1.80 MPa	—	78
			°C	0.45 MPa	—	239
特电性气	耐导电径迹	IEC 60112	—		干	600
	介电强度	ASTM D 149	KV/mm		干	22
阻燃性	UL 阻燃等级	(UL94)	—		干	V-0 (0.75 mm)
	热灯丝点燃 (3 mm)	IEC 60695-2-1	°C		干	960
成形收缩率 (3mm 厚, 平行 / 垂直流动方向)		(加化成方式)	%		干	0.9 / 1.6
特征		PA 66, 阻燃等级, 无卤素				

Prepare by Lee Men Seng Page 1 of 2

Leona™ FR370

基塑条件		
烘干温度	°C	80 ~ 90
烘干时间	小时	2 ~ 3
塑料温度	°C	265 ~ 275
模具温度	°C	75 ~ 85

注：—

1. 烘干
Leona（尼胺龙）颗粒采用密封袋装形式提供，如果在开封后立即使用，则不需要预干燥。但如果开封后不赶快使用，Leona（尼胺龙）颗粒就会从空气中吸收大量的水分。为了避免因水分吸收而引起的银斑和其他缺陷，开封后的 Leona（尼胺龙）颗粒必须储存在密封的金属容器中，或者在注塑之前进行预干燥。

2. 注塑
处理 Leona（尼胺龙）时一定要在指定的温度范围内。温度过低可能会因塑化不均匀而造成局部降解；而如果温度过高的话，则可能引起银斑、其他外观问题以及树脂的分解。最佳的温度范围是因等级的不同而有所变化的，因此请阅读每个级别的指南（可从旭化成化学处获得）。在整个的注塑操作中，都应当保证充分的局部或总体通风。如果 Leona（尼胺龙）滞留在未运行的热机筒中，就可能会造成树脂分解。在长时间中断注塑过程之前，应当用无色的聚乙烯或专门用于聚酰胺树脂的清洗材料清洗和填充机筒。如果工作区域中有洒落的颗粒，应当及时清除和丢弃，以免滑倒。

3. 此处所提供的资料基于目前可得到的所有资料和数据，是我们所知道的最准确的。如有更改将不另行通知。所提供的这些资料，在任何情况下，既不做保证，也不承担责任。它只适用于作为注塑材料的 Leona (尼胺龙) 的通常处理和使用。任何其他使用或应用都可能需要额外和特殊的安全措施，因此我公司建议不作其他用途。

e 1 of 1

E48285

QMFZ2 Component - Plastics

Friday, October 24, 2003

ASAHI KASEI CHEMICALS CORP
HIBIYA-MITSUI BLDG 1-2 YURAKUCHO 1-CHOME CHIYODA-KU TOKYO 100-0006 JAPAN

Material Designation: **FR370(j)**

Product Description: Polyamide 66 (PA66), designated "Leona" furnished as granular material.

Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
ALL	0.38	V-0	-	-	-	-	-	-	-
	0.75	V-0	4	1	130	90	105	-	-
	1.5	V-0	3	0	130	105	105	-	-
	3.0	V-0	2	0	130	105	105	-	-

CTI: 0 **HVTR:** 0 **D495:** 5

Dielectric Strength (kV/mm): 31
ISO Tensile Strength (MPa): -
ISO Tensile Impact (kJ/m^2): -

Volume Resistivity (10^{X}ohm-cm): 15
ISO Flexural Strength (MPa): -
ISO Izod Impact (kJ/m^2): -

IEC Ball Pressure (°C): -
Dimensional Stability(%): 0
ISO Heat Deflection (°C): -
ISO Charpy Impact (kJ/m^2): -

(j) Virgin and regrind up to 50% by weight inclusive, have the same basic characteristics.

Report Date: 1/27/1983

Underwriters Laboratories Inc®

UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.

检测规范 Inspect standard

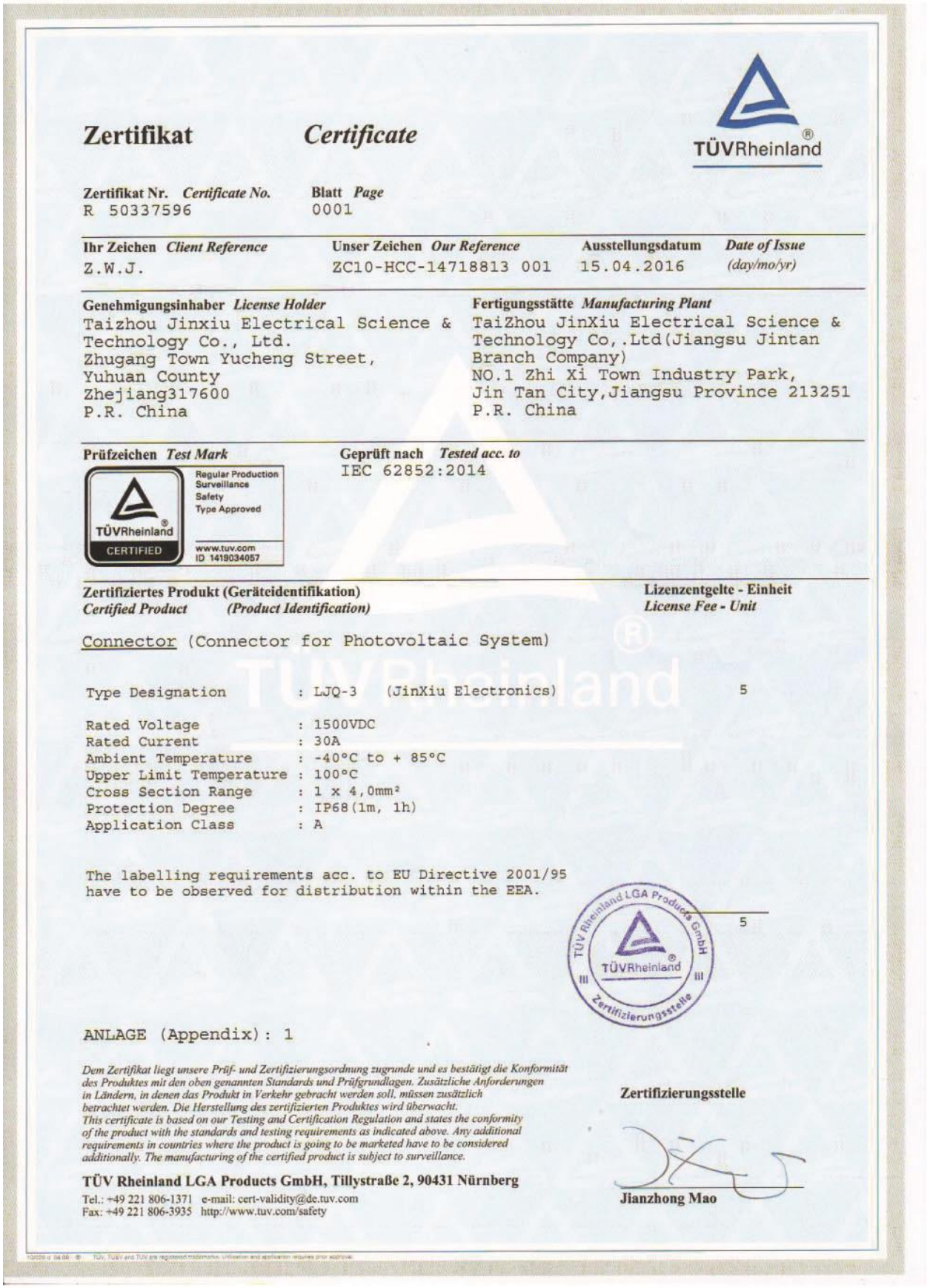
一. 试验室周期性测试项目 Reliability testing item:

类别 category	序号 NO.	试验名称 Testing name	测试依据 Standard	设定条件 Testing conditions	判定方式 decision procedure
环境测试 Environmental test	1	老化试验 Ageing test	DIN V VDE V0126-5:2008	100℃/ 240h	密封件无损坏和变形 Not changing in shape, IP 和湿漏电测试能通过 IP test and Leakage current test pass
	2	温度循环试验 TC50	UL1703	温度变化范围 Temperature changes the range (25~ -40~90~25℃) 6h/每个循环 50 个循环 50 times of circulation	IP 和湿漏电测试能通过 电阻变化在 10%以内 IP test and Leakage current test pass Resistance changes in less than 10%
		湿冷试验 Humidity test	UL1703	温度变化范围 Temperature changes the range (25~ 85/85%~25~ -40~25℃),24h/每个循环 10 个循环 10 times of circulation	
	3	温度循环试验 TC200	UL1703	温度变化范围 Temperature changes the range (25~ -40~90~25℃) 6h/每个循环 200 个循环 200 times of circulation	耐压测试、IP 和湿漏电测试能通过。电阻变化在 10%以内 High Power test ,IP test and Leakage current test pass。Resistance changes in less than 10%
	4	湿热试验 Damp heat test	DIN V VDE V0126-5:2008	温度湿度 Warm And humidity:85℃ /85% 时间 1000h	耐压测试、IP 和湿漏电测试能通过。电阻变化在 10%以内 High Power test ,IP test and Leakage current test pass。Resistance changes in less than 10%
	5	耐候性测试 Weather resistance test	DIN V VDE V0126-5:2008	光照幅度 Gamma degree:60W/m² 波带 Wavelength:300~400nM 标准温度湿度 Standard Warm humidity:65℃/65% 一个循环 A circulation:18min Water spray and 102min dry 循环时间 Duration:500 h	塑料件无变形与破裂 Plastic parts are no deformation and fracture

	6	盐雾测试 Salt spray test	UL1703	测试时间 Test time:24H 浓度 consistency:5% 压立 Pressure:117~131Kpa PH 值 PH value:6.5~7.2	金属表面无锈迹镀层无破坏 Metal surface no rust and plating no destroying
电气性能测试 Electrical	7	通电测试 Electricity test`		最大额定电流通过接线盒 The maximum rated current through PV junction boxes 时间 Time: 10s	电路无短路和断路 Circuit is no short and open
	8	接触电阻测试 Contact resistance test	DIN V VDE V0126-5:2008		≤0.3mΩ
	10	绝缘电阻测试 Insulation resistance	DIN V VDE V0126-5:2008	电压 Voltages:1000V DC+2*system voltage 时间 Time:2 minute	电阻 Resistance≥400MΩ
	11	耐压测试 High Power test	DIN V VDE V0126-5:2008	电压 Voltages:1500V DC+2*system voltage 时间 Time:1 minute	耐电压 Dielectric strength≥ 1000V DC+2*system voltage
	12	湿漏电测试 Leakage current test	DIN V VDE V0126-5:2008	电压 Voltages:1500V DC+2*system voltage 时间 Time:2 minute	电阻 Resistance≥400MΩ
	13	落球测试 Drop ball test	UL1703-30	1，温度 Temperature:25℃ 2，温度 Temperature:-35℃，3h 直径 OD:51mm,Weight:535g 高度 Hight:1.295m	没有大于 6.5cm² 的颗粒从它们普通的安装位置中溅射出来时，表层材料的破损可以被接受。UL1703-15.2 中所指的探针也接触不到盒内的导电体。 Breakage of the superstrate material is acceptable provided there are no particles larger than 1 square in (6.5CM2) released from their normal mounting position. UL1703 15.2 referred to in the probe can also conductive box.

产品证书 Product Certificate

一. TUV Certificate



Zertifikat ***Certificate***

TÜVRheinland®

Zertifikat Nr. ***Certificate No.*** R 50337596

Blatt ***Page*** 0001

Ihr Zeichen ***Client Reference***	**Unser Zeichen** ***Our Reference***	**Ausstellungsdatum**	***Date of Issue***
Z.W.J.	ZC10-HCC-14718813 001	15.04.2016	*(day/mo/yr)*

Genehmigungsinhaber ***License Holder***
Taizhou Jinxiu Electrical Science & Technology Co., Ltd.
Zhugang Town Yucheng Street,
Yuhuan County
Zhejiang317600
P.R. China

Fertigungsstätte ***Manufacturing Plant***
TaiZhou JinXiu Electrical Science & Technology Co,.Ltd(Jiangsu Jintan Branch Company)
NO.1 Zhi Xi Town Industry Park,
Jin Tan City,Jiangsu Province 213251
P.R. China

Prüfzeichen ***Test Mark***
TÜVRheinland CERTIFIED — Regular Production Surveillance, Safety, Type Approved — www.tuv.com ID 1419034057

Geprüft nach ***Tested acc. to***
IEC 62852:2014

Zertifiziertes Produkt (Gerätceidentifikation) ***Certified Product (Product Identification)***

Lizenzentgelte - Einheit ***License Fee - Unit***

Connector (Connector for Photovoltaic System)

Type Designation	: LJQ-3 (JinXiu Electronics)	5
Rated Voltage	: 1500VDC	
Rated Current	: 30A	
Ambient Temperature	: -40°C to + 85°C	
Upper Limit Temperature	: 100°C	
Cross Section Range	: 1 x 4,0mm²	
Protection Degree	: IP68(1m, 1h)	
Application Class	: A	

The labelling requirements acc. to EU Directive 2001/95 have to be observed for distribution within the EEA. 5

TÜV Rheinland LGA Products GmbH — TÜVRheinland — Zertifizierungsstelle

ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg
Tel.: +49 221 806-1371 e-mail: cert-validity@de.tuv.com
Fax: +49 221 806-3935 http://www.tuv.com/safety

Jianzhong Mao

二. UL Certificate

ONLINE CERTIFICATIONS DIRECTORY

QIJQ8.E354472
Connectors for Use in Photovoltaic Systems Certified for Canada - Component

Page Bottom

Connectors for Use in Photovoltaic Systems Certified for Canada - Component

See General Information for Connectors for Use in Photovoltaic Systems Certified for Canada - Component

TAIZHOU JINXIU ELECTRICAL SCIENCE & TECHNOLOGY CO LTD E354472
ZHUGANG TOWN
YUCHENG STREET
YUHUAN COUNTY
TAIZHOU, ZHEJIANG 317600 CHINA

Cat. No.	Electrical Rating
Photovoltaic wiring-system connector	
LJQ-3 (Including male connector type LJQ-3-M and female connector type LJQ-3-F), LJQ-3-ASY	600 V dc, 20 A max with 12AWG PV cable
LJQ-1 (Including male connector type LJQ-1-M and female connector type LJQ-1-F), LJQ-3-BSY	1000 V dc, 20 A max with 12AWG PV cable
LJQ-3-CSY	1500 V dc, 20 A max with 12AWG PV cable

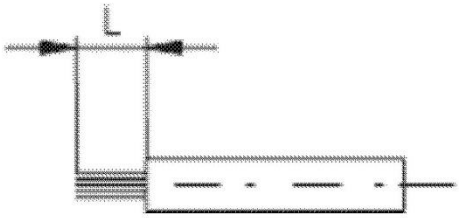
Marking: Company name, catalog designation and the Recognized Component Mark for Canada on the device or carton.
Last Updated on 2016-10-27

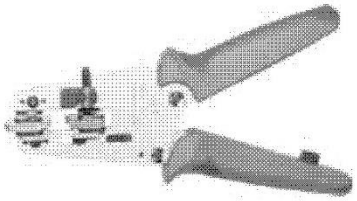
Questions? Print this page Terms of Use Page Top

Instruction Manual 安装说明

3.Installation:

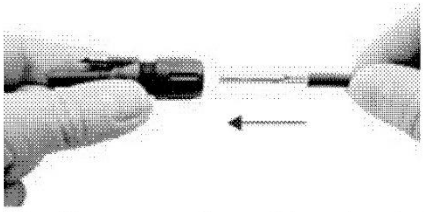
1）. Strip cable insulation. L=6-7.5mm. Take care not to cut individual strands.





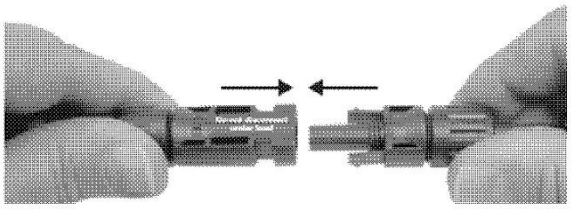
2）. Press the terminal and cable in line pliers.

4). Push the crimped contact into che socket resp plug insulator until it engages. Pull lightly on thc lead to check that chc metal part has engaged.



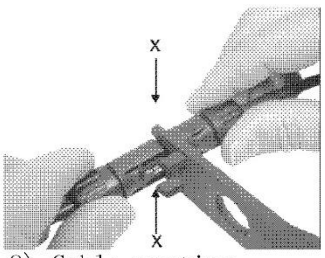
5）.Screw on the cable gland, hand-tight, with the tools. The tightening torque

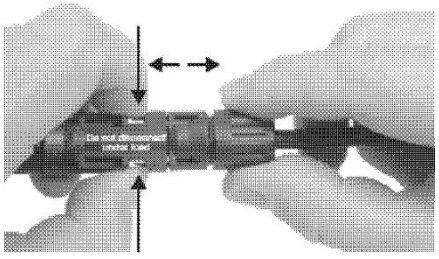
6）.Plugging



Plug the coupling together until they engage.Check correct engagement by pulling on the coupling

7）.Unplugging





Compress the two snapin springs by hand or with the tool and separate the coupling.

8).Cable routing