### CERTIFICATE OF COMPLIANCE

Certificate Number Report Reference Issue Date 20190621-E342623 E342623-20150731 2019-JUNE-21

JIANGSU TONGLIN ELECTRIC CO LTD Issued to: 666 GANGMAO RD ECONOMIC DEVELOPMENT ZONE YANGZHONG JIANGSU 212000 CHINA **COMPONENT - CONNECTORS FOR USE IN** This certificate confirms that PHOTOVOLTAIC SYSTEMS representative samples of See Addendum page Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC. Standard(s) for Safety: UL 6703 - Standard for Connectors for Use in Photovoltaic Systems UL 1703 - Standard for Safety for Flat-Plate Photovoltaic Modules and Panels CAN/CSA-C22.2 No 182.5-14 - Photovoltaic Connectors CAN/CSA-C22.2 No 65-13 - Wire Connectors Additional Information: See the UL Online Certifications Directory at https://ig.ulprospector.com for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Barnelly

Bruce Mahrenholz, Director North American Certification Program

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Certificate Number Report Reference Issue Date 20190621-E342623 E342623-20150731 2019-JUNE-21

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

USR, CNR - Component Photovoltaic Connector, locking type, Cat. No. TL-CABLE01S-F series, followed by abcdef, where a can be F or M, b can be E or V, c can be X, T or V, d can be E or V, e can be E or V, f can be 2, 4 or 6. BIG series, followed by C, P or Q, followed by F or M, followed by A or B, followed by 2, 4, 6 or 8, followed by V, Z or E, followed by X, T, V or 0, followed by U, 1, V or 0, followed by X, T, R or 0.

Component Photovoltaic Connector, latching type, Cat. No. TL-CABLE01S-FR series, followed by abcdef, where a can be F or M, b can be E or V, c can be X, T or V, d can be E or V, e can be E or V, f can be 2, 4 or 6.

Barnelly

Bruce Mahrenholz, Director North American Certification Program



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Zertifikat	Certificate			ÜVRheinland
Zertifikat Nr. <i>Certificate No.</i> R 50424961	Blatt Sheet		-	UVRneinland
Ihr Zeichen <i>Client Reference</i> L.Q.J.	Unser Zeichen <i>Ou</i> 01 - YX - 50207		Ausstellungsdatum 14.12.2018	Date of Issue (day/mo/yr)
Genehmigungsinhaber License H Jiangsu Tonglin Elec Co., Ltd. 666# Gangmao RD, Economic Development Yangzhong City, Jiar P. R. China	tric	Jiangsu ' Co., Ltd 666# Gang Economic	gmao RD, Development Zo g City, Jiangsu	one
Prüfzeichen Test Mark Bauart gepröft Sicherheit Regelmößige Produktions- überwachung www.tuv.com ID 1419064490	Geprüft nach T IEC 62852:20 EN 62852:20	2014		
Zertifiziertes Produkt (Geräteide Certified Product (Product 1	ntifikation) (dentification)		Lizenzent License Fe	gelte - Einheit 2e - Unit
PV Komponente (elekt	risch) für BOS	(PV Compone	ents for BOS -	electrical)
Type Designation	: BIGabcdefgh(a=C o b=F or M, c=A or e=E or V or Z, f g=U or 1 or V or h=X or T or R or	B, d=2 or 4 =X or T or V 0,		20
Ambient Temperature Upper Limit Temperature Cross Section Range Protection Degree	<pre>: 1500VDC : 40A for BIGabc2e 45A for BIGabc4e 55A for BIGabc6e : -40°C to +90°C : 105°C : 1 x 2,5mm<sup>2</sup>;1 x 4 : IP65/IP68 (1m, 1) : Class A</pre>	fgh; fgh ,0mm²;1 x 6,0	rmm <sup>2</sup>	
Remark: The labelling r	equirements acc. to be observed for d			
ANLAGE (Appendix): 3	1.0		_	20
Dem Zertifikat liegt unsere Prüf- und Zertij des Produktes mit den oben genannten Star in Ländern, in denen das Produkt in Verkel betrachtet werden. Die Herstellung des zer This certificate is based on our Testing ana of the product with the standards and testi requirements in countries where the produ additionally. The manufacturing of the cert	ulards und Prüfgrundlagen. Zusä hr gebracht werden soll, müssen z tifizierten Produktes wird überwa l Certification Regulation and sta g requirements as indicated abov ct is going to be marketed have to	tzliche Anforderungen usätzlich cht. tes the conformity e. Any additional be considered	iitäi Zertifizierung	ssstelles Lind LGA Promits
TÜV Rheinland LGA Products C Tel.: +49 221 806-1371 e-mail: cert-valid		1 Nürnberg	Dinl Ing (FF	I) Bernd Scheirer

Zertifikat	Certificate		1	rüvRheinland
<b>Zertifikat Nr.</b> <i>Certificate No.</i> R 50424961	Blatt Sheet		-	
Ihr Zeichen Client Reference L.Q.J.	Unser Zeichen Our Refe 01-LXL-50207971		stellungsdatum .09.2019	Date of Issue (day/mo/yr)
Genehmigungsinhaber License H Jiangsu Tonglin Elec Co., Ltd. 666# Gangmao RD, Economic Development Yangzhong City, Jian P. R. China	tric J C 5 Zone E ngsu 212200 Y	ertigungsstätte Man iangsu Tong] o., Ltd. 66# Gangmao conomic Deve angzhong Cit . R. China	RD,	ic
Prüfzeichen Test Mark Bauart geprüft Sicherheit Regelmäßige Produktions- überwachung	Geprüft nach Tested of IEC 62852:2014 EN 62852:2015			
Zertifiziertes Produkt (Geräteide Certified Product (Product I	ntifikation) dentification)		Lizenzentg License Fe	gelte - Einheit <i>e - Unit</i>
	activity for all of the			
PV Komponente (elekt	<u>risch) für BOS</u> (PV	Components	for BOS -	electrical)
as page 0001 Addition Type Designation : Bl C=	<u>risch) für BOS</u> (PV IGabcdefgh(a=C or P or =A or B, d=8, e=E or V c V or 0, g=U or 1 or V	Q, b=F or M, or Z, f=X or S		electrical) 20
as page 0001 Addition Type Designation : Bi C= 01 h=	IGabcdefgh(a=C or P or =A or B, d=8, e=E or V	Q, b=F or M, or Z, f=X or S		
as page 0001 Addition Type Designation : Bi C= ON h= (Ji	IGabcdefgh(a=C or P cr =A or B, d=8, e=E or V r V or 0, g=U or 1 or V =X or T or R or 0)	Q, b=F or M, or Z, f=X or S		
C= 01 h= (Ji	IGabcdefgh(a=C or P cr =A or B, d=8, e=E or V r V or 0, g=U or 1 or V =X or T or R or 0) Langsu Tonglin(LOGO)) 500VDC	Q, b=F or M, or Z, f=X or S		
as page 0001 Addition Type Designation : Bi c= on h= (Ji Rated Voltage : 15	IGabcdefgh(a=C or P cr =A or B, d=8, e=E or V r V or 0, g=U or 1 or V =X or T or R or 0) Langsu Tonglin(LOGO)) 500VDC	Q, b=F or M, or Z, f=X or S		
as page 0001 Addition Type Designation : Bi C= ON h= (Ji Rated Voltage : 15 Rated Current : 70	IGabcdefgh(a=C or P cr =A or B, d=8, e=E or V r V or 0, g=U or 1 or V =X or T or R or 0) Langsu Tonglin(LOGO)) 500VDC DA x 10,0mm <sup>2</sup>	Q, b=F or M, or Z, f=X or S	5	20
as page 0001 Addition Type Designation : Bi C= or h= (J1 Rated Voltage : 15 Rated Current : 7( Cross Section Range : 1	IGabcdefgh (a=C or P or =A or B, d=8, e=E or V r V or 0, g=U or 1 or V =X or T or R or 0) Langsu Tonglin (LOGO)) 500VDC DA x 10,0mm <sup>2</sup> .1 zierungsordnung zugrunde und es bestätt dards und Prüfgrundlagen. Zusätzliche A r gebracht werden soll, müssen zusätzlich fizierten Produktes wird überwacht. Certification Regulation and states the co r grequirements as indicated above. Any a reguirements as indicated above. Any a	Q, b=F or M, or Z, f=X or 7 or 0, gt die Konformität nforderungen	5	20

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## Certificate

### DEKRA

#### Certificate No.: 6058381.05DS.001

Applicant: Jiangsu Tonglin Electric Co., Ltd. 666# Gangmao RD, Economic Development Zone, Yangzhong City, Jiangsu 212200, P.R. China

The scope of this certificate includes the following products: Connectors for Photovoltaic Systems Type: BIGabcdefgh(a=C or P or Q, b=F or M, c=A or B, d=2 or 4 or 6, e=E or V or Z, f=X or T or V or 0, g=U or 1 or V or 0, h=X or T or R or 0)

Rated Voltage: Rated Current: Ambient Temperature: Upper Limit Temperature: Cross Section Range: Protection Degree: Application Class: Production Plant: 1500 Vdc See annex 1 for details -40 °C to +90 °C 105 °C 1 x 2,5 mm²; 1 x 4,0 mm²; 1 x 6,0 mm² 1P65/IP68(1 h,1 m) Class A See annex 1 for details

According to the results of the type examination and annual quality controls of the production processes carried out by the seal awarding body

DEKRA Testing and Certification (Shanghai) Ltd. 3F #250 Jiangchangsan Road Building 16 Headquarter Economy Park/Shibei Hi-Tech Park, Jing'an District Shanghai 200436 China

compliance with the requirements specified in Standards/ IEC 62852: 2014 EN 62852: 2015

are ensured.

Shanghai, 10 July 2019

It expires at the latest on: 10 July 2024

Cliff Lin Certification Body, Company



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# Certificate

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#### Annex 1 of 6058381.05DS.001

Rated Current:

40 A for BIGabc2efgh; 45 A for BIGabc4efgh; 55 A for BIGabc6efgh

Production Plant: Address of Production Plant:

Jiangsu Tonglin Electric Co., Ltd. 666# Gangmao RD, Economic Development Zone, Vangzhong City, Jiangsu 212200, P.R. China RA DI

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# Certificate

### DEKRA

#### Certificate No.: 6058381.05DS.002

Report No.:	6058381.054A.002
Licensee:	Jiangsu Tonglin Electric Co., Etd.
Address of Licensee:	666# Gangmao RD, Economic Development Zone, Yangzhong City, Jiangsu 212200, P.R. China
Production Plant(s):	see annex 1 for details
The scope of this certif	icate includes the following products. Connectors Photovoltaic Systems
Type(s):	see annex 1 for details
Parameters:	see annex 1/ for details

According to the results of the type examination and annual quality controls of the production processes carried out by the seal awarding body

DEKRA Testing and Certification (Shanghai) Ltd. 3F #250 Jiangchangsan Road Building 16 Headquarter Economy Park Shibei Hi-Tech Park, Jing'an District Shanghai 200436 China compliance with the requirements specified in Standards IEC 62852:2014

EN 62852:2015

are ensured.

Shanghai, 07 January 2020

It expires at the latest on: 07 January 2025

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Cliff Lin Certification Body, Company



ype Testing IEC 62852:2014 EN 62852:2015 Periodically Factory Inspection as per CIG 021-024



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# Certificate

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#### Type(s):

Rated Voltage: Rated Current: Cross Section Range: BIGabcdefgh(a=C or P or Q, b=F or M, c=A or B, d=8, e=E or V or Z, f=X or T or V or 0, g=U or 1 or V or 0, h=X or T or R or 0) 1500 Vdc 70 A for BIGabc8efgh 1 x 10,0 mm<sup>2</sup> for BIGabc8efgh

Annex 1 of 6058381.05DS.002

Production Plant:

Address of Production Plant: Jiangsu Tonglin Electric Co., Ltd.

666# Gangmao RD, Economic Development Zone/ Yangzhong City, Jiangsu 212200, P.R. China

Zertifikat	Certificate		A
<b>Zertifikat Nr.</b> Certificate No. R 50524455	Blatt Sheet 0001		TÜVRheinland
<b>Ihr Zeichen</b> Client Reference Z.D.Y.	Unser Zeichen Our Reference 01-LWP-CN21UL7C 001	Ausstellungsdatum	Date of Issue
	The second second second	19.11.2021	(day/mo/yr)
Genehmigungsinhaber License H Jiangsu Tonglin Elec Co., Ltd. 666# Gangmao RD, Economic Development Yangzhong City 212200 Jiangsu P.R. China	tric Jiangsu Co., Lt 666# Ga Zone Economi Yangzho	ngmao RD, c Development Zc ong City Jiangsu	-C
Prüfzeichen Test Mark	Geprüft nach Tested acc. to	lina	<u> </u>
Bauart geprüft     Sicherfieit     Regelmäßige     Produktions-     überwachung     Www.tuv.com     ID 1111247036	IEC 62852:2014+A1 EN 62852:2015+A1		
Lertifiziertes Produkt (Geräteider	itifikation)	Lizenzenta	elte - Einheit
		LILICALLE	
certified Product (Product Ia	lentification)	License Fee	
<u>PV Komponente (elekt</u>	risch) für BOS (PV Compon	License Fee	e – Unit
<u>PV Komponente (elekt</u>		License Fee	e – Unit
<b>PV Komponente (elekt:</b> Type Designation : Rated Voltage :	risch) für BOS (PV Compor BIGabcd (a=C, P or Q; b=F or M) ; (C=A or B, d=2, 4, 6 or 8) (Jiangsu Tonglin(logo)) 1500VDC 40A for BIGabc2; 45A for BIG	License Fea ments for BOS - (	?- <i>Unit</i> electrical)
PV Komponente (elekt: Type Designation : Rated Voltage : Rated Current :	risch) für BOS (PV Compor BIGabcd (a=C, P or Q; b=F or M) ; (C=A or B, d=2, 4, 6 or 8) (Jiangsu Tonglin(logo)) 1500VDC	License Fea ments for BOS - (	?- <i>Unit</i> electrical)
PV Komponente (elekt:   Type Designation :   Rated Voltage :   Rated Current :   Ambient Temperature :   Upper Limit Temperature: :   Cross Section Range :	<pre>risch) für BOS (PV Compor BIGabcd (a=C, P or Q; b=F or M) ; (C=A or B, d=2, 4, 6 or 8) (Jiangsu Tonglin(logo)) 1500VDC 40A for BIGabc2; 45A for BIG 55A for BIGabc6; 70A for BIG -40°C to +90°C 105°C 1 x 2,5mm<sup>2</sup>; 1 x 4,0mm<sup>2</sup>; 1 x 6,0mm<sup>2</sup>; 1 x 10,0mm<sup>2</sup></pre>	License Fea ments for BOS - (	?- <i>Unit</i> electrical)
PV Komponente (elekt:   Type Designation :   Rated Voltage :   Rated Current :   Ambient Temperature :   Dpper Limit Temperature: :   Cross Section Range :   Protection Degree :	<pre>risch) für BOS (PV Compor BIGabcd (a=C, P or Q; b=F or M) ; (C=A or B, d=2, 4, 6 or 8) (Jiangsu Tonglin(logo)) 1500VDC 40A for BIGabc2; 45A for BIG 55A for BIGabc6; 70A for BIG -40°C to +90°C 105°C 1 x 2,5mm<sup>2</sup>; 1 x 4,0mm<sup>2</sup>;</pre>	License Fea ments for BOS - (	?- <i>Unit</i> electrical)
PV Komponente (elekt:   Type Designation   Type Designation   Rated Voltage   Rated Voltage   Rated Current   Ambient Temperature   Dpper Limit Temperature:   Cross Section Range   Protection Degree   Application Class   Remark:	<pre>risch) für BOS (PV Compor BIGabcd (a=C, P or Q; b=F or M) ; (C=A or B, d=2, 4, 6 or 8) (Jiangsu Tonglin(logo)) 1500VDC 40A for BIGabc2; 45A for BIG 55A for BIGabc6; 70A for BIG -40°C to +90°C 105°C 1 x 2,5mm<sup>2</sup>; 1 x 4,0mm<sup>2</sup>; 1 x 6,0mm<sup>2</sup>; 1 x 10,0mm<sup>2</sup> IP65/IP68(1m, 1h)</pre>	License Fea hents for BOS - ( Gabc4; Gabc8	?- <i>Unit</i> electrical)
PV Komponente (elekt:   Type Designation   Iype Designation   Rated Voltage   Rated Voltage   Rated Current   Ambient Temperature   Dpper Limit Temperature:   Cross Section Range   Protection Degree   Application Class   Remark: The labelling red   2001/95 have to 1   the EEA.	<pre>risch) für BOS (PV Compor BIGabcd (a=C, P or Q; b=F or M) ; (C=A or B, d=2, 4, 6 or 8) (Jiangsu Tonglin(logo)) 1500VDC 40A for BIGabc2; 45A for BIG 55A for BIGabc6; 70A for BIG -40°C to +90°C 105°C 1 x 2,5mm<sup>2</sup>; 1 x 4,0mm<sup>2</sup>; 1 x 6,0mm<sup>2</sup>; 1 x 10,0mm<sup>2</sup> IP65/IP68(1m, 1h) Class A</pre>	License Fea hents for BOS - ( Gabc4; Gabc8	?- <i>Unit</i> electrical)
PV Komponente (elekt:   Type Designation   Image: State of Current   Rated Voltage   Rated Current   Ambient Temperature   Image: Dyper Limit Temperature:   Cross Section Range   Cross Section Range   Protection Degree   Application Class   Remark: The labelling reaction Class   Remark: The labelling reaction   Closs Section Range   Remark: The labelling reaction   Closs Section Class   Remark: The labelling reaction   Closs Section Class   Remark: The labelling reaction   Closs Section Class   Cool/95 have to Descenter   Cool/95 have to Descenter	<pre>risch) für BOS (PV Compon BIGabcd (a=C, P or Q; b=F or M); (C=A or B, d=2, 4, 6 or 8) (Jiangsu Tonglin(logo)) 1500VDC 40A for BIGabc2; 45A for BIG 55A for BIGabc6; 70A for BIG -40°C to +90°C 105°C 1 x 2,5mm<sup>2</sup>; 1 x 4,0mm<sup>2</sup>; 1 x 6,0mm<sup>2</sup>; 1 x 10,0mm<sup>2</sup> IP65/IP68(1m, 1h) Class A Quirements acc. to EU Directi be observed for distribution .0</pre>	License Fea hents for BOS - ( abc4; abc8	<pre>29</pre>