

Zertifikat

Certificate



Zertifikat Nr. *Certificate No.*
R 50588722

Blatt *Sheet*
0001

Ihr Zeichen *Client Reference*
L.L.

Unser Zeichen *Our Reference*
ZC10-WCJ-CN23RRGR 001

Ausstellungsdatum *Date of Issue*
14.06.2023
(day/mo/yr)

Genehmigungsinhaber *License Holder*

Zhejiang Tengen Electric Co., Ltd.
Sulv Industrial Area,
Liushi Town, Yueqing City,
325604 Zhejiang
P.R. China

Fertigungsstätte *Manufacturing Plant*

Zhejiang Tengen Smart Electrics
Co., Ltd
No. 2777 West Zhongshan Road,
Xiuzhou District,
Jiaxing
314000 Zhejiang
P.R. China

Prüfzeichen *Test Mark*



Geprüft nach *Tested acc. to*
EN IEC 60947-3:2021

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

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

Switch-disconnector (PV Switch-disconnector)

Type Designation: TGHX3-63P-yz (TENGEN (Logo) 8
(y=2,2P,3C,3P,4,4P,6,6C,8,9C; z=M, D)
Ambient Temperature : -40°C to +85°C
Utilization Category : DC-PV1,DC-PV2,DC-21B,AC-22B
Polarity : No polarity
Number of Poles : 2/3/4/6/8/9 layers
Rated Operational Voltage (Ue) : 600/800/1000/1100/1200/1250
1500VDC;400/690/800/1000VAC
Rated Current (Ie)
(y=2,4,6,8,3C,6C,9C) : 600 to 1000VDC/63A,1100 to 1200VDC/55A,
1250 to 1500VDC/50A
(y=3P,4P) : 400VAC/63A,690VAC/63A,800VAC/13A,1000VAC/10A
(x=2P) : 400VAC/63A
Rated Insulation Voltage (Ui) : 1500V
Rated Impulse Withstand Voltage (Uimp) : 8.0kV
Conventional Free Air Thermal Current (Ith) : 63A
Rated Short-time Withstand Current (Icw) : 760A,1s
Rated Short-time Making Capacity (Icm) : 1400A
Pollution Degree : 3
Suitability for Isolation : Yes
Degree of Protection : IP20 (IP66NW installation with PCE)

ANLAGE (Appendix) : 1

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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.

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg

http://www.tuv.com/safety E-mail: markcheck@tuv.com
Fax: +49 221 806-3935

Zertifizierungsstelle



Wencai Zhang

Zhejiang Tengen Electric Co., Ltd.
Li Li

Date : 14.06.2023
Our ref. : WCJ ZC10
Your ref.: L.L.

Sulv Industrial Area,
Liushi Town, Yueqing City,
325604 Zhejiang
P.R. China

Ref : R TÜV-Mark Approval

Type of Equipment : PV Switch-disconnector
Model Designation : See Certificate
Certificate No. : R 50588722 0001
Report No. : CN23RRGR 001

Dear Li Li,

The above specified equipment has been tested and found to be in accordance with the relevant requirements.

Please find enclosed your certificate as specified above.

If cancellation of the certificate is submitted by 15 November in a given year, no fee will be charged for the following year.

The certificate is issued with the reservation that the license holder applies all information required in § 6 of the ProdSG related to name and address of the manufacturer or his authorized representative / importer, including their respective contact addresses on the product prior to marketing of the product in the European Economic Area. In case you have a change regarding your involved local representative for the certificate, please inform us in due time.

With kind regards,

Certification Body



Wencai Zhang

cc: Zhejiang Tengen Electric Co., Ltd.

Enclosure

证书的详细资料请登陆www.certipedia.com查阅,或拨打我司客服热线800 999 3668 / 400 883 1300咨询

C E R T I F I C A T E



of Conformity Low Voltage Directive 2014/35/EU

Registration No.: AN 50588726 0001

Report No.: CN23RRGR 001

Holder: Zhejiang Tengen Electric Co., Ltd.
Sulv Industrial Area,
Liushi Town, Yueqing City,
325604 Zhejiang
P.R. China

Product: Switch-disconnector
(PV Switch-disconnector)

Identification: Type Designation: TGHX3-63P-yz (TENGEN (Logo))
(y=2, 2P, 3C, 3P, 4, 4P, 6, 6C, 8, 9C; z=M, D)
Serial No. : Engineering sample

Remark: Issued in conjunction with TÜV Rheinland license
R 50588722 0001.

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical Report and documentation are at the Licence Holder's disposal. This is to certify that the tested sample is in conformity with Annex I of Council Directive 2014/35/EU, referred to as the Low Voltage Directive. This certificate does not imply assessment of the series-production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to Annex IV of the Directive.

Certification Body

Date 14.06.2023


Wencai Zhang


TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

 The CE marking may be used if all relevant and effective EC Directives are complied with. 

Zhejiang Tengen Electric Co., Ltd.
Li Li

Date : 14.06.2023
Our ref. : WCJ ZC10
Your ref.: L.L.

Sulv Industrial Area,
Liushi Town, Yueqing City,
325604 Zhejiang
P.R. China

Ref : AN Certificate of Conf. Low Voltage D.

Type of Equipment : PV Switch-disconnector
Model Designation : See Certificate
Certificate No. : AN 50588726 0001
Report No. : CN23RRGR 001

Dear Li Li,

The above specified equipment has been tested and found to be in accordance with the relevant requirements.

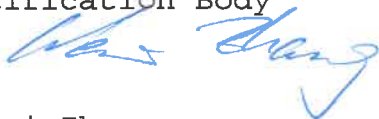
Please find enclosed your certificate as specified above.

If cancellation of the certificate is submitted by 15 November in a given year, no fee will be charged for the following year.

The certificate is issued with the reservation that the license holder applies all information required in § 6 of the ProdsG related to name and address of the manufacturer or his authorized representative / importer, including their respective contact addresses on the product prior to marketing of the product in the European Economic Area. In case you have a change regarding your involved local representative for the certificate, please inform us in due time.

With kind regards,

Certification Body



Wencai Zhang

CC: Zhejiang Tengen Electric Co., Ltd.

Enclosure

证书的详细资料请登陆www.certipedia.com查阅,或拨打我司客服热线800 999 3668 / 400 883 1300咨询

Constructional Data Form (CDF) for PV Switch-disconnector

License holder: Zhejiang Tengen Electric Co., Ltd.
 (full address): Sulv Industrial Area, Liushi Town, Yueqing City, 325604 Zhejiang P.R.China
 Factory: Zhejiang Tengen Smart Electrics Co., Ltd
 (full address) : No. 2777 West Zhongshan Road, Xiuzhou District, Jiaxing 314000 Zhejiang P.R. China
 Type or Model Number: TGHX3-63P-yz(y=2,2P,3C,3P,4,4P,6,6C,8,9C; z=M, D)
 Kind of device: PV Switch-disconnector

Type designation		TGHX3-63P-yz(y=2,2P,3C,3P,4,4P,6,6C,8,9C; z=M, D)						
Ambient temperature		-40°C~+85°C (the maximum ambient temperature is +70°C without de-ratings. The de-ratings at +85°C, please refer to the Guidance of the manufacturer)						
Contact material		Moving / static: T3Y2 (1µm Ag plated)/ T3Y2 (1µm Ag plated)						
Interrupting medium		Air						
Number of poles		2/3/4/6/8/9 layers						
Utilization category		AC-22B for AC system						
Rated operational voltage U _e (V)		400V AC	690V AC	800V AC	1000V AC			
Rated operational current I _e (A)	Connection code: 2P	63A	--	--	--			
	Connection code: 3P	63A	63A	13A	10A			
	Connection code: 4P	63A	63A	13A	10A			
Utilization category		DC-PV1, DC-PV2, DC-21B for DC system						
Rated operational voltage U _e (V)		600VDC	800V DC	1000VDC	1100V DC	1200V DC	1250V DC	1500V DC
Rated operational current I _e (A)	Connection code: 2	63A	63A	63A	55A	55A	50A	50A
	Connection code: 3C	63A	63A	63A	55A	55A	50A	50A
	Connection code: 4	63A	63A	63A	55A	55A	50A	50A
	Connection code: 6	63A	63A	63A	55A	55A	50A	50A
	Connection code: 6C	63A	63A	63A	55A	55A	50A	50A
	Connection code: 8	63A	63A	63A	55A	55A	50A	50A
	Connection code: 9C	63A	63A	63A	55A	55A	50A	50A
Rated frequency		AC 50/60Hz and DC						
Load circuit connection code diagram		Refer to table 1						
Insulation voltage U _i		1500 V						
Conventional free air thermal current I _{th}		63A for unenclosed switch						
Conventional enclosed thermal current at +40°C solar for annex D for IEC standard.		--						
Rated short-time withstand current I _{cw}		0.76kA, 1s						
Rated short-time making capacity I _{cm}		1.4kA						
Rated conditional short-circuit current I _{cn}		N/A						

TÜV Rheinland Group

2023-05-28



Date

Signature

License holder

Name

Company Stamp and Signature

Certificate No. R 50588722 0001 **Our Reference** ZC10-WCJ- CN23RRGR 001 **Appendix No.** 1

Constructional Data Form (CDF) for PV Switch-disconnector

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Short circuit protective device	N/A
Rated Impulse withstand voltage	8.0 kV
Overvoltage category	II
IP code	IP20 Unenclosed use IP66NW enclosed outdoor use in power conditioning equipment(PCE)
Pollution degree	3
Suitability for isolation	Yes
Polarity	No polarity, "+" and "-" polarities could be interchanged.

Terminals /connection:

Type designation	TGHX3-63P-yz(y=2,2P,3C,3P,4,4P,6,6C,8,9C; z=M, D)
Number of poles	2/3/4/6/8/9 layers
Terminal designation, main circuit	Refer to wiring diagrams
Type of terminal, main circuit	Screw clamping units
Rated cross sectional area, main circuit	1.5-16 mm ²
Type of conductor	Flexible or rigid
Number of conductors per terminal	2
Required preparation of the conductor	Yes
Stripping length (mm), main circuit	8 mm
Tightening torque, main circuit (Nm)	1.2 Nm for M4
Material/plating terminal, main circuit	T3 copper
Material/plating of the screw	ASTM1022
Material/plating of the washer	Q195

Plastic insulating parts:

Part name	Manufacturer	Material name	CTI (V)	Flame class	Material Group
Switch bottom base, odd base, even base, contact rotation shaft	CGN Juner (Zhejiang) New Materials Co.,Ltd.	PA66/B2GM	400V	GWT: 960°C	II
Handle	CGN Juner (Zhejiang) New Materials Co.,Ltd.	PA66/301-GM(b) E204321	175V	GWT: 960°C	IIIa
Limitation position for rotation of actuation	DuPont Performance Polymers	POM E41938	175V	GWT: 650°C	IIIa
Contact supporting	CGN JUNER NEW MATERIALS CO.,LTD.	PA66/B2NV0 E204321	400V	GWT: 960°C	II

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 2023-05-28



Date

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Constructional Data Form (CDF) for PV Switch-disconnector

Moved and fixed contact connection	Jiangxi Hongshong Copper Co. LTD	T3Y2/1µm plated Ag copper	--	--	--
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TYPE NOMENCLATURE AS FOLLOW:

PV Switch-disconnector TGHX3-63P-yz(y=2,2P,3C,3P,4,4P,6,6C,8,9C; z=M, D) series has the same design frame Conventional free air thermal current (I_{th}):63A. Only for load connection code, installation method and handle nob are deviations. The details as follows:

TGHX3-63P-yz explanations as follows:

TG	H	X	3	-	63	P	-	y	z
1	2	3	4	5	6	7	8	9	10

1	TG →	PV DC Switch-disconnector for enterprise feature code: TG: ZHEJIANG TENGGEN ELECTRIC CO., LTD.
2	H →	Class group code: H means Disconnector
3	X →	Class group code: X means Rotary switch
4	3 →	Design serial number code: 3 means 3 version
5	- →	"-" Dash delimiter no meanings
6	63 →	Conventional thermal current code: 63 means 63A
7	P →	Used in photovoltaic code: P
8	- →	"-" Dash delimiter no meanings
9	y →	Load connection code: y=2,2P,3C,3P,4,4P,6,6C,8,9C, refer to table 1 for details
10	z →	Installation method code: z=M: panel installation, D: Guid rail installation or bottom plate installation

The respective wiring diagrams approved by type tests for the supply and load terminals see below:

DC-PV1, DC-PV2, DC-21B		Table 1	
Connection code	Circuit Type	Wining Diagram	Load Diagram
2	2 layers		
3C	3 layers, 2 "+", 1 "-" le= "-" current		
4	4 layers		

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2023-05-28

Chengze Wang

Date

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Constructional Data Form (CDF) for PV Switch-disconnector

Table 1			
DC-PV1, DC-PV2, DC-21B		Wiring Diagram	Load Diagram
Connection code	Circuit Type		
6	6 layers		
6C	6 layers, 2 "+", 1 "-" Ie= "-" current 2 mirror unit		
8	8 layers		
9C	9 layers, 2 "+", 1 "-" Ie= "-" current 3 mirror unit		

Table 1			
AC-22B		Wiring Diagram	Load Diagram
Connection code	Circuit Type		
2P	2 layers		
3P	3 layers		
4P	4 layers		

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2023-05-28

Changzhen Wang

Date

Signature

License holder

Name

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