ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

DAkkS Deutsche Akkreditierungsstelle D-ZE-11321-01-00

TÜV SÜD Product Service

Certificate of Conformity

No. ESY 093811 0062 Rev. 00

Holder of Certificate:

INVT Solar Technology (ShenZhen) Co., Ltd.
6th Floor, Block A
INVT Guangming Technology Building
Kejie Fourth Road, Shutianpu Community, Matian
Guangming District
518000 Shenzhen
PEOPLE'S REPUBLIC OF CHINA

Product:

Converter (Solar Inverter)

Model(s):

iMars XG3KTR, iMars XG4KTR, iMars XG5KTR, iMars XG6KTR, iMars XG8KTR, iMars XG9KTR, iMars XG10KTR, iMars XG11KTR, iMars XG12KTR, iMars XG15KTR1
iMars XG3KTR-S, iMars XG4KTR-S, iMars XG5KTR-S, iMars XG6KTR-S, iMars XG8KTR-S, iMars XG9KTR-S, iMars XG10KTR-S, iMars XG11KTR-S, iMars XG12KTR-S, iMars XG15KTR1-S
iMars XG3KTR-AU, iMars XG4KTR-AU, iMars XG5KTR-AU, iMars XG6KTR-AU, iMars XG8KTR-AU, iMars XG9KTR-AU, iMars XG10KTR-AU, iMars XG11KTR-AU, iMars XG12KTR-AU, iMars XG15KTR1-AU

Parameters:

See page 3-5

Applicable standards:

EN 50549-1:2019
RfG:2016
NC RfG:2018
PTPiREE:2021

This Certificate of Conformity confirms the compliance with the above listed standards on a voluntary basis. It refers only to the sample submitted to TÜV SÜD Product Service GmbH and does not certify the quality or safety of the serial products. It was issued according to TÜV SÜD Product Service certification program Photovoltaics and Grid Integration. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290223083201

Date, 2022-08-26

(Billy Qiu)

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Technical Certifier (Billy Qiu) appointed by Certification Body TÜV SÜD Product Service GmbH performed assessment of the products listed in this certification in the place: Ridlerstraße 65, 80339 Munich, Germany.

Test requirement	The certification complies with the requirements of the following documents for Type A PGM installations: EN 50549-1:2019 Wymagania dla instalacji wytwórczych przeznaczonych do równoległego przyłączania do publicznych sieci dystrybucyjnych -- Część 1: Przyłączanie do sieci dystrybucyjnej nN -- Instalacje wytwórcze aż do typu B włącznie *(EN: Requirements for generating plants to be connected in parallel with distribution networks - Part 1: Connection to a LV distribution network - Generating plants up to and including Type B)* RfG:2016 Rozporządzenie Komisji (UE) 2016/631 z dnia 14 kwietnia 2016 r. ustanawiające kodeks sieci dotyczący wymogów w zakresie przyłączenia jednostek wytwórczych do sieci (Dz.U. UE L 112/1 z 27.4.2016) *(EN: Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for the connection of generating units to the Network (OJ EU L 112/1 of 27.4.2016))* NC RfG:2018 Wymogi Ogólnego Stosowania wynikające z rozporządzenia komisji UE 2016/631 z dnia 14 kwietnia 2016 r. ustanawiającego kodeks sieci dotyczący wymogów w zakresie przyłączenia jednostek wytwórczych do sieci (NC RfG, 2018) - zatwierdzone Decyzją Prezesa Urzędu Regulacji Energetyki DRE.WOSE.7128.550.2.2018.ZJ z dnia 2 stycznia 2019 r. *(EN: General applicability requirements resulting from EU commission regulation 2016/631 of of 14 April 2016 establishing a network code concerning the requirements for with regard to the connection of generating units to the grid (NC RfG-2018)- approved by the Decision of the President of the Energy Regulatory Office DRE.WOSE.7128.550.2.2018.ZJ dated 2 January 2019.)* PTPiREE:2021 Warunki i procedury wykorzystania certyfikatów w procesie przyłączenia modułów wytwarzania energii do sieci elektroenergetycznych V1.2 *(EN: Conditions and procedures for the use of certificates in the process of connecting modules generation modules to the power grid V1.2)*
Type of certification programme	1(a) according to EN ISO/IEC 17067 Based on Photovoltaics and Grid Integration Certification Program (Revision 6,Dated 5 Dec 2021) for Poland Grid Code
Manufacturer & Address of manufacturing site	INVT Solar Technology (ShenZhen) Co., Ltd. 6th Floor, Block A INVT Guangming Technology Building Kejie Fourth Road, Shutianpu Community, Matian Guangming District 518000 Shenzhen PEOPLE'S REPUBLIC OF CHINA
Software version	GAAA1.0
Certificate expiry date	2027-08-25

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Parameters:

Model:	iMars XG3KTR	iMars XG4KTR	iMars XG5KTR	iMars XG6KTR	iMars XG8KTR
PV input terminal parameters:					
Maximum input voltage	1100Vd.c.				
PV input operating voltage range	180-1000Vd.c.				
MPPT voltage range(Full load)	250-850Vd.c.				320-850 Vd.c.
Maximum operating PV input current	14/14Ad.c.				
Maximum PV short circuit current	18/18Ad.c.				
AC output rating					
Rated output voltage	3/N/PE,230/400Va.c.				
Rated output frequency	50Hz				
Maximum continuous output current	4.8Aa.c.	6.4Aa.c.	8Aa.c.	9.6Aa.c.	12.8Aa.c.
Rated output active power	3kW	4kW	5kW	6kW	8kW
Maximum continuous output apparent power SEmax	3.3kVA	4.4kVA	5.5kVA	6.6kVA	8.8kVA
Power factor	0.9 leading ~ 0.9 lagging				

Model:	iMars XG9KTR	iMars XG10KTR	iMars XG11KTR	iMars XG12KTR	iMars XG15KTR1
PV input terminal parameters:					
Maximum input voltage	1100Vd.c.				
PV input operating voltage range	180-1000Vd.c.				
MPPT voltage range(Full load)	400-850 Vd.c.	450-850Vd.c.		480-850 Vd.c.	500-850 Vd.c.
Maximum operating PV input current	14/14Ad.c.				14/28 Ad.c.
Maximum PV short circuit current	18/18Ad.c.				18/36 Ad.c.
AC output rating					
Rated output voltage	3/N/PE,230/400Va.c.				
Rated output frequency	50Hz				
Maximum continuous output current	14.4Aa.c.	15.9Aa.c.	17.5Aa.c.	19.1Aa.c.	23.9Aa.c.
Rated output active power	9kW	10kW	11kW	12kW	15kW
Maximum continuous output apparent power SEmax	9.9kVA	11kVA	12.1kVA	13.2kVA	16.5kVA
Power factor	0.9 leading ~ 0.9 lagging				

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Model:	iMars XG3KTR-S	iMars XG4KTR-S	iMars XG5KTR-S	iMars XG6KTR-S	iMars XG8KTR-S
PV input terminal parameters:					
Maximum input voltage	1100Vd.c.				
PV input operating voltage range	180-1000Vd.c.				
MPPT voltage range(Full load)	200-850Vd.c.				360-850 Vd.c.
Maximum operating PV input current	18/18Ad.c.				
Maximum PV short circuit current	25/25Ad.c.				
AC output rating					
Rated output voltage	3/N/PE,230/400Va.c..				
Rated output frequency	50Hz				
Maximum continuous output current	4.8A	6.4A	8A	9.6A	12.8A
Rated output active power	3kW	4kW	5kW	6kW	8kW
Maximum continuous output apparent power SEmax	3.3kVA	4.4kVA	5.5kVA	6.6kVA	8.8kVA
Power factor	0.9 leading ~ 0.9 lagging				

Model:	iMars XG9KTR-S	iMars XG10KTR-S	iMars XG11KTR-S	iMars XG12KTR-S	iMars XG15KTR1-S
PV input terminal parameters:					
Maximum input voltage	1100Vd.c.				
PV input operating voltage range	180-1000Vd.c.				
MPPT voltage range(Full load)	360-850Vd.c.		380-850Vd.c.		450-850 Vd.c.
Maximum operating PV input current	18/18Ad.c.				
Maximum PV short circuit current	25/25Ad.c.				
AC output rating					
Rated output voltage	3/N/PE,230/400Va.c.				
Rated output frequency	50Hz				
Maximum continuous output current	14.4Aa.c.	15.9Aa.c.	17.5Aa.c.	19.1Aa.c.	23.9Aa.c.
Rated output active power	9kW	10kW	11kW	12kW	15kW
Maximum continuous output apparent power SEmax	9.9kVA	11kVA	12.1kVA	13.2kVA	16.5kVA
Power factor	0.9 leading ~ 0.9 lagging				

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Model:	iMars XG3KTR-AU	iMars XG4KTR-AU	iMars XG5KTR-AU	iMars XG6KTR-AU	iMars XG8KTR-AU
PV input terminal parameters:					
Maximum input voltage	1100Vd.c.				
PV input operating voltage range	180-1000Vd.c.				
MPPT voltage range(Full load)	250-850Vd.c.				320-850 Vd.c.
Maximum operating PV input current	14/14Ad.c.				14/28 Ad.c.
Maximum PV short circuit current	18/18Ad.c.				18/36 Ad.c.
AC output rating					
Rated output voltage	3/N/PE,230/400Va.c.				
Rated output frequency	50Hz				
Maximum continuous output current	4.3Aa.c.	5.8Aa.c.	7.2Aa.c.	8.7Aa.c.	11.6Aa.c.
Rated output active power	3kW	4kW	5kW	6kW	8kW
Maximum continuous output apparent power SEmax	3kVA	4kVA	5kVA	6kVA	8kVA
Power factor	0.9 leading ~ 0.9 lagging				

Model:	iMars XG9KTR-AU	iMars XG10KTR-AU	iMars XG11KTR-AU	iMars XG12KTR-AU	iMars XG15KTR1-AU
PV input terminal parameters:					
Maximum input voltage	1100Vd.c.				
PV input operating voltage range	180-1000Vd.c				
MPPT voltage range(Full load)	400-850 Vd.c.	450-850Vd.c.		480-850 Vd.c.	500-850 Vd.c.
Maximum operating PV input current	14/28Ad.c.				
Maximum PV short circuit current	18/36Ad.c.				
AC output rating					
Rated output voltage	3/N/PE,230/400Va.c.				
Rated output frequency	50Hz				
Maximum continuous output current	13Aa.c.	14.5Aa.c.	16Aa.c.	17.4Aa.c.	21.7Aa.c.
Rated output active power	9kW	10kW	11kW	12kW	15kW
Maximum continuous output apparent power SEmax	9kVA	10kVA	11kVA	12kVA	15kVA
Power factor	0.9 leading ~ 0.9 lagging				

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Scope of assessment and results

Clause of NfG	Requirement	Type A	Type B	Type C	Type D	Assessment Result
Article 13.1 (a)	Frequency range	Y	-	-	-	Pass
Article 13.1 (b)	Ability to withstand the rate of change of frequency (RoCoF)	Y	-	-	-	Pass
Article 13.2	Limited frequency sensitive mode — overfrequency (LFSM-O)	Y	-	-	-	Pass
Article 13.4 & 13.5	Maximum power capability reduction with falling frequency	Y	-	-	-	Pass
Article 13.6	Remote ceasing active power	Y	-	-	-	Pass
Article 13.7	Automatic connection to the network	Y	-	-	-	Pass