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

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

TÜV SÜD Product Service

Certificate

No. ESY 131542 0016 Rev. 00

Holder of Certificate: **TCL Photovoltaic Technology (Shenzhen) Co., Ltd.**
D301, Building A3
No.2533 Guanguang Road
Fenghuang Community, Fenghuang Street, Guangming District
518132 Shenzhen City, Guangdong Province
PEOPLE'S REPUBLIC OF CHINA

Product: **Converter**
Hybrid Inverter

Model(s): **SP-ARSH-3.6kW-G1, SP-ARSH-4.6kW-G1, SP-ARSH-5kW-G1, SP-ARSH-6kW-G1, SP-ARSH-8kW-G1, SP-ARSH-10kW-G1**

Parameters: See next pages

Applicable standards: UNE 217001:2020
RD 244:2019

This Certificate 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.: 5040925003742-00

Date, 2026-01-28

(Zhengdong Ma)

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Certification Body TÜV SÜD Product Service GmbH Performed assessment of the products listed below:

Test requirement	The certification complies with the requirements of the following documents: **UNE 217001:2020**, Test for systems that avoid energy discharge to the distribution network. **Royal Decree 244:2019**, of April 5, which regulates the administrative, technical and economic conditions of self-consumption of electrical energy.
Manufacturer	TCL Photovoltaic Technology (Shenzhen) Co., Ltd. D301, Building A3, No.2533 Guanguang Road, Fenghuang Community, Fenghuang Street, Guangming District, 518132 Shenzhen City, Guangdong Province, PEOPLE'S REPUBLIC OF CHINA
Product types used in power generation system	Converter: Single-phase inverter Necessary installation components: First solution: meter and current transformer Second solution: current transformer
Software version	V1.00
Test Report	5040925003742-00
Issued by	Testing lab: TÜV SÜD New Energy Vehicle Testing (Jiangsu) Co., Ltd.
Accreditation No.	L12727
Accreditation body ref.	CNAS
Reference of the certification body	
Certification Body	TÜV SÜD Product Service GmbH
	DAkkS accreditation certificate D-ZE-11321-01-00 according to DIN EN ISO/IEC 17065:2013

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Parameters:

Models	SP-ARSH-3.6kW-G1	SP-ARSH-4.6kW-G1	SP-ARSH-5kW-G1
PV INPUT			
Max. PV input power	7360 W	9200 W	10000 W
Max. input voltage	DC 600 V		
MPPT voltage range	DC 50 V, …, 560 V		
Max. input current	DC 2 × 16 A		
Isc PV	DC 2 × 22 A		
BATTERY			
Battery type	LFP		
Battery Voltage Range	DC 80 V, …, 500 V		
Max. Charge/ Discharge Current	DC 50 A		
AC GRID			
Nominal voltage	1/N/PE ~ 230 V		
Nominal frequency	50 Hz		
Nominal output power	3680 W	4600 W	5000 W
Max. cont. apparent output power	3680 VA	4600 VA	5000 VA
Max. cont. output current	AC 16 A	AC 20 A	AC 21.8 A
Max. cont. apparent input power	7360 VA	9200 VA	10000 VA
Max. cont. input current	AC 32 A	AC 40 A	AC 43.5 A
Power factor	1(-0.8, …, +0.8 adjustable)		

Models	SP-ARSH-6kW-G1	SP-ARSH-8kW-G1	SP-ARSH-10kW-G1
PV INPUT			
Max. PV input power	12000 W	16000 W	20000 W
Max. input voltage	DC 600 V		
MPPT voltage range	DC 50 V, …, 560 V		
Max. input current	DC 2 × 16 A	DC 4 × 16 A	
Isc PV	DC 2 × 22 A	DC 4 × 22 A	
BATTERY			
Battery type	LFP		
Battery Voltage Range	DC 80 V, …, 500 V		
Max. Charge/ Discharge Current	DC 50 A		
AC GRID			
Nominal voltage	1/N/PE ~ 230 V		
Nominal frequency	50 Hz		
Nominal output power	6000 W	8000 W	10000 W

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Max. cont. apparent output power	6000 VA	8000 VA	10000 VA
Max. cont. output current	AC 26.1 A	AC 34.8 A	AC 43.5 A
Max. cont. apparent input power	12000 VA	14490 VA	
Max. cont. input current	AC 52.2 A	AC 63 A	
Power factor	1(-0.8, …, +0.8 adjustable)		

For First solution: Single or multiple inverters with external power meter on the grid and external current transformer on the grid.

Parameters of the meter (model: ADL200N-CT/D10) and CT (model: AKH-0.66 K-Φ10 80A/26.7mA) as a whole	
Connection method	Single-phase
Rated voltage	230 V
Input voltage deviation range	±20 %
Voltage precision	±0.5 %
Rated current	80 A
Current precision	±0.5 %
Active power precision	±0.5 %
Reactive power precision	±0.5 %
Apparent power precision	±0.5 %
Rated frequency	45 - 65 Hz
Frequency precision	±0.5 %
Sampling rate	≤100 ms(voltage, current, power) ≤1 s (electrical energy)
Active energy precision	Class B
Reactive energy precision	Class 2

For Second solution: Single or multiple inverters with voltage sampling on the grid connection point through inverter and external current transformer on the grid.

CT Model Name	AKH-0.66 K-Φ10 80A/26.7mA
Rated current ratio	80 A / 26.7 mA
Rated voltage	AC 0.66 kV
Rated frequency	50 - 60 Hz
Accuracy class and load rating	Class 0.5(10 Ω)

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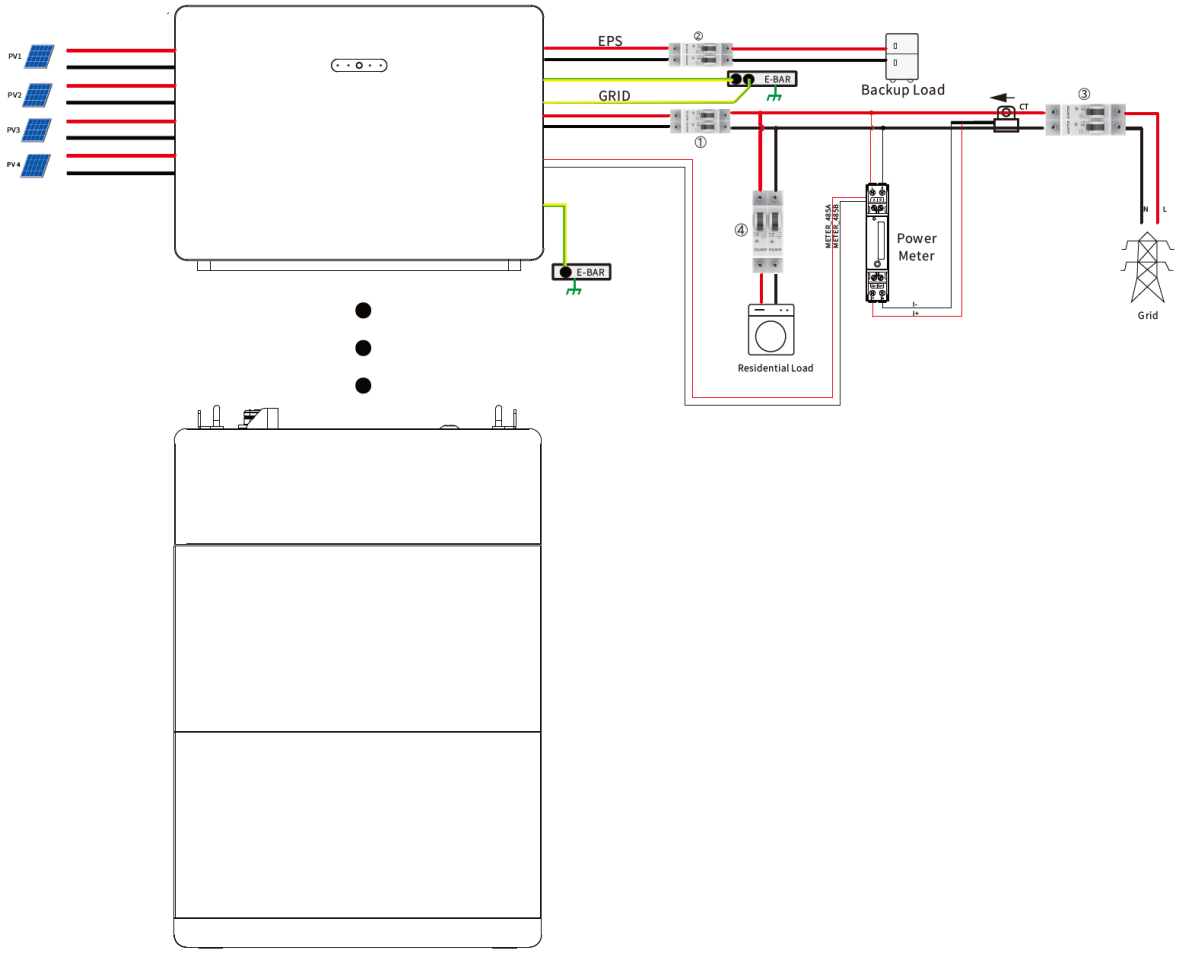
Two solutions are provided to be selected by final installer:

1)First solution: Single or multiple inverters with external power meter on the grid and external current transformer on the grid.

a) Single inverter with external power meter on the grid and external current transformer on the grid:

The system obtains whether reverse active power occurs on the grid side through the external power meter (ADL200N-CT/D10) on the grid side through RS485 communication with the inverter and the corresponding external CT (AKH-0.66 K-Φ10 80A/26.7mA) on the grid side, and the inverter performs calculations and then controls the active power output. If there is a communication failure in the system, the system active output power will be limited based on the failure prompt to ensure system safety.

The following figure shows the operating diagram of single generator (SP-ARSH-3.6kW-G1, SP-ARSH-4.6kW-G1, SP-ARSH-5kW-G1, SP-ARSH-6kW-G1, SP-ARSH-8kW-G1, SP-ARSH-10kW-G1).



b) Multiple inverters with external power meter on the grid and external current transformer on the grid.

The system obtains whether reverse active power occurs on the grid side through the external power meter(ADL200N-CT/D10) on the grid side through RS485 communication with master inverter and the corresponding external CT(AKH-0.66 K-Φ10 80A/26.7mA) on the grid side, Master inverter is

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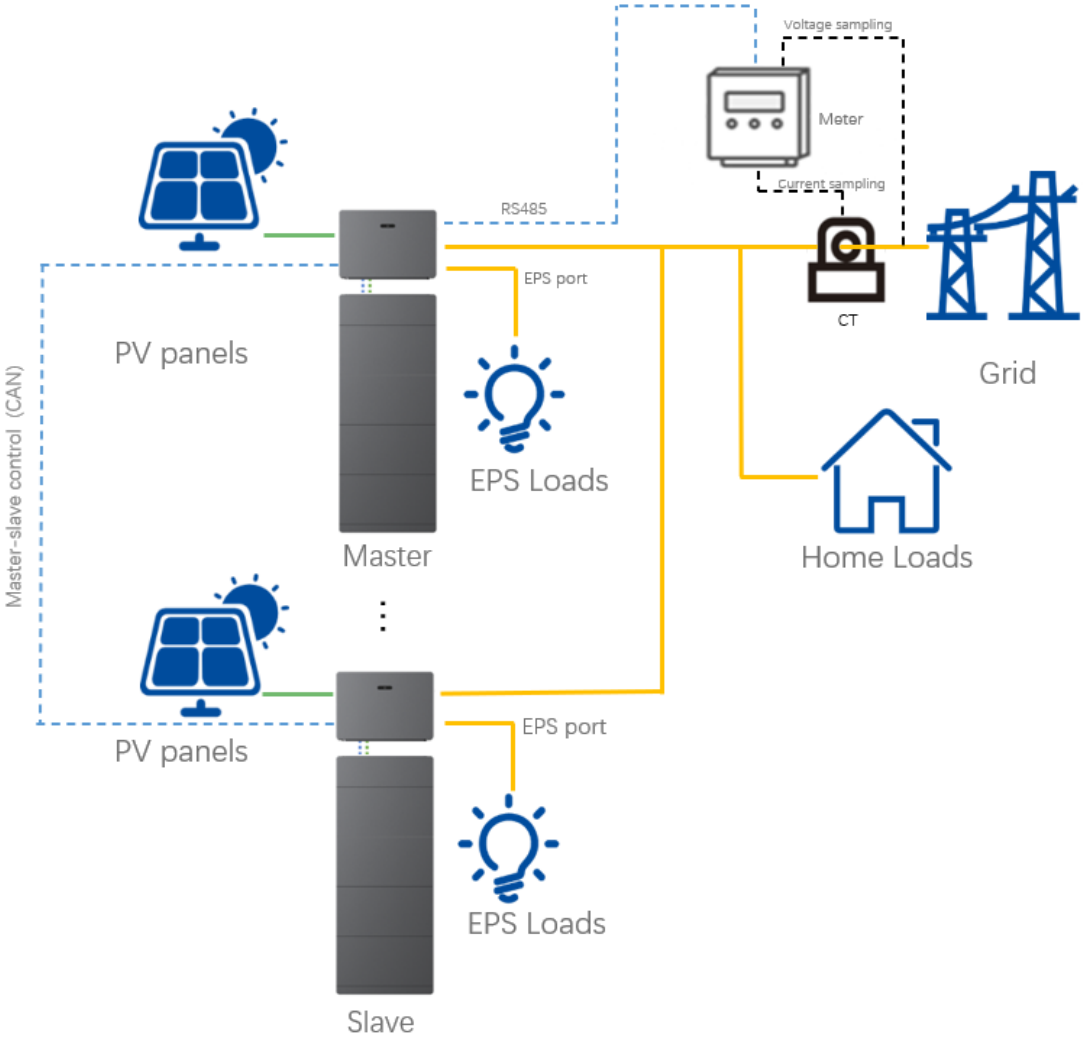
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communicated with slave inverters through CAN, master inverter performs calculations and then controls the active power of all the inverters in the system. If there is a communication failure in the system, the system output active power will be limited based on the failure prompt to ensure system safety.

The following figure shows the operating diagram of Multiple generators (SP-ARSH-3.6kW-G1, SP-ARSH-4.6kW-G1, SP-ARSH-5kW-G1, SP-ARSH-6kW-G1, SP-ARSH-8kW-G1, SP-ARSH-10kW-G1).



2)Second solution: Single or multiple inverters with voltage sampling on the grid connection point through inverter and external current transformer on the grid.

a) Single inverter with voltage sampling on the grid connection point through inverter and external current transformer on the grid:

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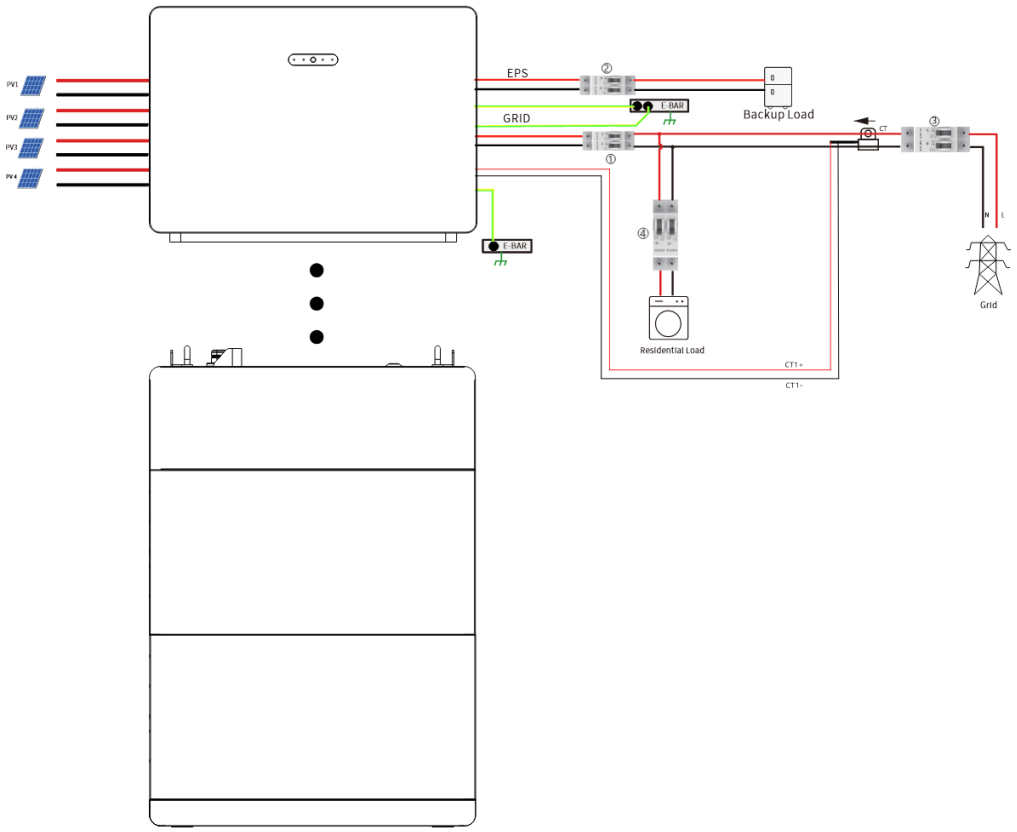
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The system obtains whether reverse active power occurs on the grid side through voltage sampling on the grid connection point through inverter and the corresponding external CT (AKH-0.66 K-Φ10 80A/26.7mA) on the grid side, and the inverter performs calculations and then controls the active power output in the system. If there is a communication failure in the system, the system active output power will be limited based on the failure prompt to ensure system safety.

The following figure shows the operating diagram of single generator (SP-ARSH-3.6kW-G1, SP-ARSH-4.6kW-G1, SP-ARSH-5kW-G1, SP-ARSH-6kW-G1, SP-ARSH-8kW-G1, SP-ARSH-10kW-G1).



b) Multiple inverters with voltage sampling on the grid connection point through inverter and external current transformer on the grid.

The system obtains whether reverse active power occurs on the grid side through voltage sampling on the grid connection point through master inverter and the corresponding external CT(AKH-0.66 K-Φ10 80A/26.7mA) on the grid side, Master inverter is communicated with slave inverters through CAN and master inverter performs calculations and then controls the active power of all the inverters in the system. If there is a communication failure in the system, the system output active power will be limited based on the failure prompt to ensure system safety.

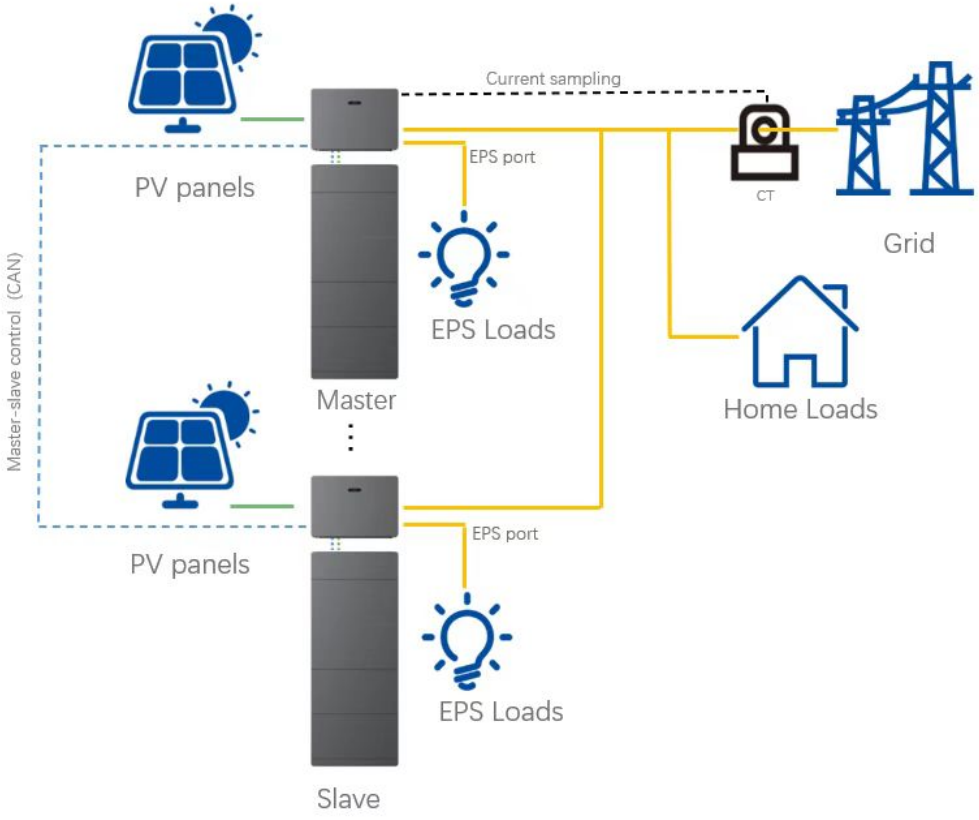
The following figure shows the operating diagram of Multiple generators (SP-ARSH-3.6kW-G1, SP-ARSH-4.6kW-G1, SP-ARSH-5kW-G1, SP-ARSH-6kW-G1, SP-ARSH-8kW-G1, SP-ARSH-10kW-G1):

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Notes:

Note1: If additional current or voltage transformers are required, the accuracy of components shall be the same or higher.

Note2: All the tests conducted to obtain this certificate have been passed by acting on the generation system to regulate the power generated. No cut-off or current limiting element is required to be installed redundantly to the tested solution.