

Certificate of Conformity

No. ESY 114387 0116 Rev. 00

Holder of Certificate: **Huawei Digital Power Technologies Co., Ltd.**
Office 01, 39th Floor, Block A
Antuoshan Headquarters Towers
33 Antuoshan 6th Road, Futian District
518043 Shenzhen
PEOPLE'S REPUBLIC OF CHINA

Product: **Converter
(Hybrid Inverter)**

Model(s): **SUN2000-8K-LC0, SUN2000-10K-LC0**


Parameters: See page 3-5

Applicable standards: UNE 217001:2020
RD 244:2019

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.: 64290233020801

Date, 2023-09-13



(Billy Qiu)

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

Test requirement	<p>The certification complies with the requirements of the following documents:</p> <p>UNE 217001:2020, Tests for systems that avoid energy discharge to the distribution network.</p> <p>Royal Decree 244:2019, of April 5, which regulates the administrative, technical and economic conditions of self-consumption of electrical energy.</p>
Manufacturer	<p>Huawei Digital Power Technologies Co.,Ltd.</p> <p>Office 01, 39th Floor, Block A Antuoshan Headquarters Towers</p> <p>33 Antuoshan 6th Road, Futian District 518043 Shenzhen</p> <p>PEOPLE'S REPUBLIC OF CHINA</p>
Product types used in power generation system	<p>Inverter: Single-phase inverter</p> <p>Network analyzer/ SmartLogger /SmartGuard/Current transformer</p>
Model and Technical Data	See page 3-5
Software version	<p>Inverter: V100R023</p> <p>Network analyzer: V1.03</p> <p>SmartLogger: V300R001</p> <p>SmartGuard:V100R023</p> <p>EMMA: V100R023</p>
Test Report	64.290.23.30208.01
Issued by	<p>Testing lab:</p> <p>TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch</p>
Accreditation No.	D-PL-19065-01-01
Accreditation body ref.	DAkkS
Reference of the certification body	
Certification Body	<p>TÜV SÜD Product Service GmbH</p> <p>DAKKS accreditation certificate D-ZE-11321-01-00 according to DIN EN ISO/IEC 17065:2013</p>

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Inverter Parameters:

Model	SUN2000-8K-LC0		SUN2000-10K-LC0	
PV input parameter				
Maximum DC input voltage	600 Vd.c.			
Rated voltage	360 Vd.c.			
MPPT voltage range	40~560 Vd.c.			
MPPT voltage range (full load)	260~510 Vd.c.		285~510 Vd.c.	
Maximum input current	3*16 Ad.c.			
Isc PV	3*20 Ad.c.			
Maximum Input Power	12000 W		15000 W	
Battery input/output parameter				
Battery type	Li-ion			
Rated voltage	360 Vd.c.			
Input voltage range	350-600 Vd.c.			
Maximum input/output voltage	600 Vd.c.			
Maximum charging/ discharging current	25 Ad.c.			
Maximum charging power	8000 W		10000 W	
Maximum discharging power	8000 W		10000 W	
Maximum charge power from grid to battery	5000 W			
Grid parameter				
Rated input/output voltage	230 Va.c., L+N+PE			
Rated input/output frequency	50 Hz			
Maximum input current	21.74 Aa.c.			
Maximum input active power	5000 W			
Maximum input apparent power	5000 VA			
Rated output current	34.8 Aa.c.		43.5 Aa.c.	
Maximum continuous output current*	40.0 Aa.c.		45.5 Aa.c.	
Rated output active power	8000 W		10000 W	
Maximum output active power	8800 W		10000 W	
Maximum output apparent power	8800 VA		10000 VA	
Power factor	0.8 under-excited to 0.8 over-excited			

Remark: *:The maximum AC output current is the maximum current that can be withstood under low voltage(0.95Un) conditions.

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Network analyzer Parameters(Meter):

Model	DDSU666-H
Electrical parameter	
Voltage connect type	230 Va.c., L+N
Rated Frequency	50 Hz
Current specification	100A/40mA
Energy consumption	≤1W
Type	Through transformer
Precision parameter	
Maximum error limit percentage of various instruments	±1.0%
Precision class	Active Power class 1
Communications	
Communication type	RS485 ModBus RTU Protocol
Refresh time	≤1s

Model	EMMA-A02
Electrical parameter	
Voltage connect type	230 Va.c., L+N
Rated Frequency	50 Hz
Current specification	N/A
Energy consumption	≤4W
Type	Through transformer
Precision parameter	
Maximum error limit percentage of various instruments	±0.5%
Precision class	Active Power class 1
Communications	
Communication type	RS485 ModBus RTU Protocol
Refresh time	30ms

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SmartGuard Parameters:

Model	SmartGuard-63A-S0
Communication interface compatibility	RS485
Speed of the communication interface	1200/2400/4800/9600/19200/115200 bps (Default 9600 bps)

SmartLogger Parameters:

Model	SmartLogger 1000A	SmartLogger 1000	SmartLogger 2000	SmartLogger 3000A	SmartLogger 3000B
Communication interface compatibility	RS485, ETH, MBUS (optional) 4G				
Speed of the communication interface	1200/2400/4800/9600/19200/115200 bps (Default 9600 bps)				

Current transformer Parameters:

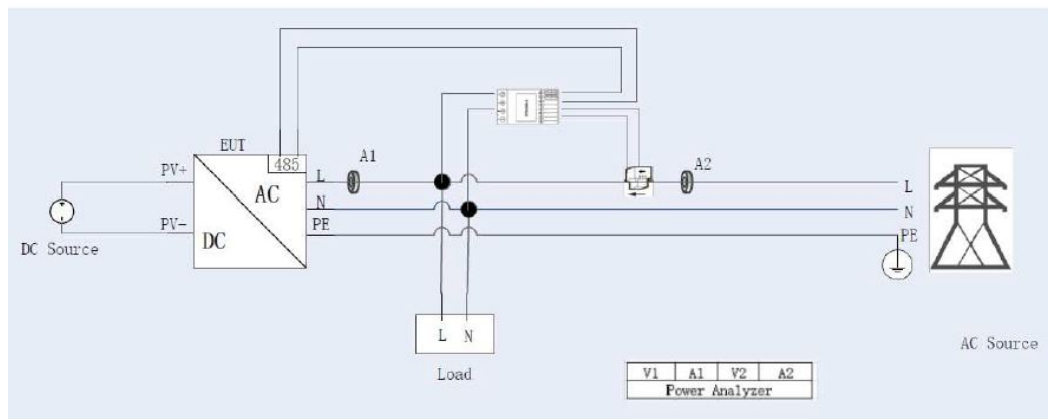
Model	CTF16-2K5-100
Rated primary current	100 Aa.c.
Rated transformation ratio	2500:1
Rated load	20Ω
Rated Frequency	50 Hz
Accuracy	± 0.5%, class 1.0

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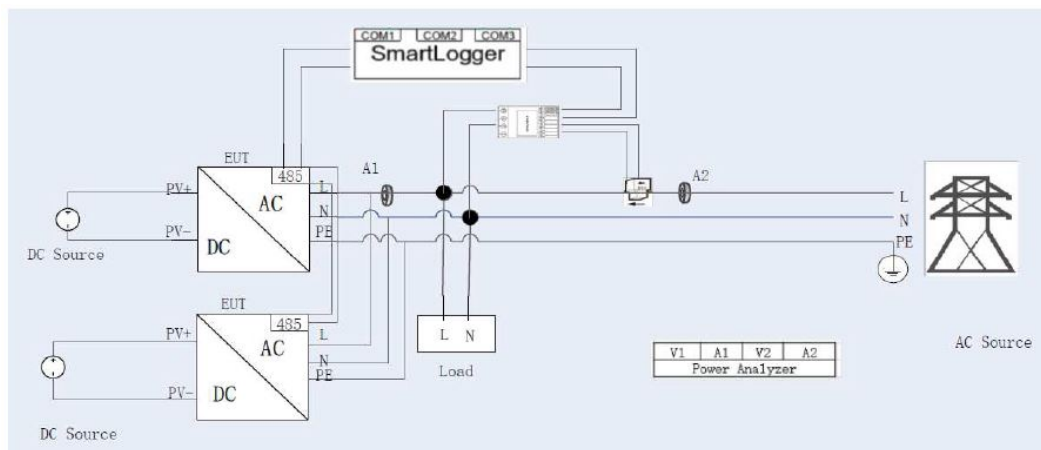
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Electrical schematic diagram:

1. The following figure shows the operating diagram of single generator. Inverter communicates with DDSU666-H (Meter) through RS485, receives the grid connection point current collected by the CT current sensor, scheduling output active power to prevent energy from being injected into the grid in real time.



2. The following figure shows the operating diagram of two generators working in parallel. Different from working with a single generator, add the SmartLogger for communication between inverters and meters, and use the RS485 communication port as a means of communication between generators.

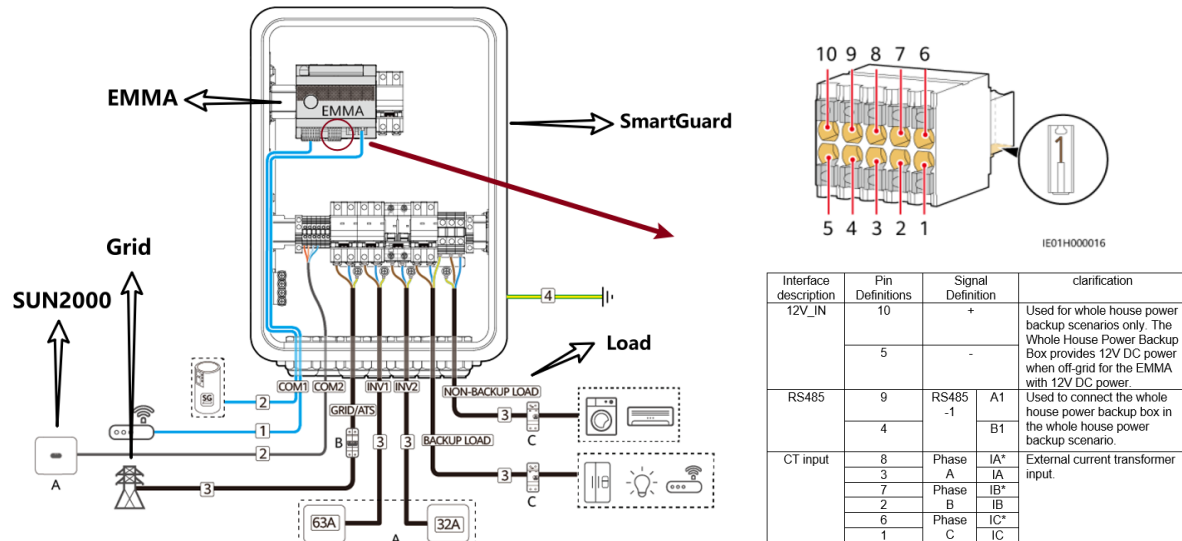


3. According to the test results of test clause "Determining the maximum number of generators", the maximum number of generators that can be included in the system is 9.
4. The following figure shows another alternative operating diagram of single generator. Inverter connects to the COM port of SmartGuard, communicates through RS485 and receives the grid connection point current collected by EMMA-A02, scheduling output active power to prevent energy from being injected into the grid in real time.

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EMMA connects with SmartGuard through its 10 pin RS485 signal connector, pin 9 and pin 4 are used to communicate with SmartGuard. The SmartGuard system only operating in single generator.



5. Connect balance control equipment to limit phase imbalance to less than 5 kW in final system installation.

Note:

Note 1: Variant models of network analyzer (without control) and current and voltage transformer can be included in the certified solution, provided that they comply with:

- Same connection scheme (single-phase or three-phase)
- Same measurement tolerance
- Same or shorter refresh time
- Same type of communication
- If additional current or voltage transformers are required, the accuracy of the components shall be the same or higher.

Note 2: 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.

EU Type Examination Certificate

Certificate No: TPS-RED500940 i01

Certificate Holder: Huawei Digital Power
Technologies Co., Ltd.
Office 01, 39th Floor, Block A
Antuoshan Headquarters Towers
33 Antuoshan 6th Road, Futian District
518043 Shenzhen
PEOPLE'S REPUBLIC OF CHINA

Product Type: Wireless LAN equipment
Single-phase Whole Home Backup

Model(s): SmartGuard-63A-S0

We, as Notified Body number 0123, have examined the technical documentation and supporting evidence for the above listed equipment and found it to comply with the requirements of Annex III Module B of Radio Equipment Directive 2014/53/EU in relation to the following essential requirements covered by the examination.

Essential Requirements: Article 3.3 (d) in respect to network protection * Applies from the 1st August 2025

The certificate has been issued in accordance with the Testing, Certification, Validation and Verification Regulations of TÜV SÜD Product Service GmbH (Notified Body Number 0123).

The CE marking may be used on the equipment described above subject to the equipment meeting the compliance requirements of all applicable EU directives.

The conditions for the validity of this certificate are listed in the following pages.
For further details related to this certification please contact ps.zert@tuvsud.com

This is based upon examination of the following Technical Data file.

Technical Documentation: SmartGuard-63A-S0 RED TCF

Valid from: 2025-05-12

The RED state of the art for this certificate will be monitored for 5 years after the issue date until 2030-05-11. During this time, the certificate might be re-evaluated if underlying standards change. In any case, after this 5-year period the certificate will be required to be up re-issued or will be automatically withdrawn.



(Laurentiu Dan Miiler)

EU Type Examination Certificate

Certificate No: TPS-RED500940 i01

1 Equipment Description

The device is a single-phase power backup box contains energy management assistant module supporting Wi-Fi at 2.4GHz.

1.1 Models

	Model	HW Version	SW Version	OS Version
Original	SmartGuard-63A-S0	END1PWRAB-1 A.5	BackupBoxA V100R023C10SPC[XXX] (The identifier placeholder XXX indicates a bug fix or patch version only, which does not change any cyber security function. XXX = 000-999 and is increased for each update release.)	RTOS 208

1.2 Supported Functions and Features

1.2.1 Non-radio features

Rating: a.c. Nominal Voltage:220/230/240V; a.c. Interver-side Max. Current: 60A;
a.c. Backup Max. Load Current: 63A; a.c. Non-backup Max. Load Current: 63A;
a.c. Grid/ATS-side Max. Current: 63A; Rated Current: 63A.

Ports: RS485 port, WAN port, LAN port

1.2.2 Radio features

Radio	Feature	Operating Spectrum / Max Power	
IEEE 802.11 – 2.4 GHz	b/g/n, Adaptive	2400-2483.5 MHz	20.0 dBm

1.3 Accessories

Model / Part Number	Description
N/A	N/A

2 Assessed Standards

Essential Requirement	Assessed Standards
Article 3.3(d) [Network protection]	EN 18031-1:2024

EU Type Examination Certificate

Certificate No: TPS-RED500940 i01

3 Technical Documentation

3.1 Technical Documentation

Technical documentation and supporting evidence were examined and found to comply with the EU-type examination requirements in conjunction with Annex V requirements of the directive.

3.2 Declarations

Declaration of Conformity for SmartGuard-63A-S0 for CE, Draft	Modified	2025-05-08
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3.3 Strategic Documentation

Risk Assessment Letter of SmartGuard-63A-S0 for RED	Issued	2025-05-08
Justification of Conformity of SmartGuard-63A-S0 for RED	Modified	2025-05-12

3.4 Technical Compliance Documentation

3.4.1 Article 3.3(d)

6818925008101	Issued	2025-04-03
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4 Additional Information

None.

5 Conditions of Validity

For complete conformity to the Radio Equipment Directive requirements as applicable inside the European Union, this product requires the essential requirements of RED Article 3.1(a), 3.1(b) and 3.2 that are not covered on this type examination certificate.