

# Einheitenzertifikat

**Hersteller / Antragsteller:** Huawei Technologies Co., Ltd.  
Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District, Shenzhen, 518129  
P.R. China

|                                                              |                                    |                                    |                                      |
|--------------------------------------------------------------|------------------------------------|------------------------------------|--------------------------------------|
| <b>Typ Erzeugungseinheit:</b>                                | <b>SOLAR INVERTER</b>              |                                    |                                      |
| <b>Name der EZE:</b>                                         | SUN2000-3KTL-M0<br>SUN2000-3KTL-M1 | SUN2000-4KTL-M0<br>SUN2000-4KTL-M1 | SUN2000-5KTL-M0<br>SUN2000-5KTL-M1   |
| <b>Wirkleistung (Nennleistung bei Nennbedingungen) [kW]:</b> | 3,0                                | 4,0                                | 5,0                                  |
| <b>Name der EZE:</b>                                         | SUN2000-6KTL-M0<br>SUN2000-6KTL-M1 | SUN2000-8KTL-M0<br>SUN2000-8KTL-M1 | SUN2000-10KTL-M0<br>SUN2000-10KTL-M1 |
| <b>Wirkleistung (Nennleistung bei Nennbedingungen) [kW]:</b> | 6,0                                | 8,0                                | 10,0                                 |
| <b>Bemessungsspannung:</b>                                   | 230 / 400 V; N; PE                 |                                    |                                      |

**Firmwareversion:** V100R001

**Netzanschlussregel:** VDE-AR-N 4105:2018-11 – Erzeugungsanlagen am Niederspannungsnetz  
Technische Mindestanforderungen für Anschluss und Parallelbetrieb von Erzeugungsanlagen am Niederspannungsnetz

**Mitgeltende Normen / Richtlinien:** DIN VDE V 0124-100 (VDE V 0124-100):2019-09 – Netzintegration von Erzeugungsanlagen – Niederspannung  
Prüfanforderungen an Erzeugungseinheiten vorgesehen zum Anschluss und Parallelbetrieb am Niederspannungsnetz

Die oben bezeichneten Eigenerzeugungseinheiten wurden nach der Prüfrichtlinie VDE 0124-100 geprüft und zertifiziert.  
Die in der Netzanschlussregel geforderten elektrischen Eigenschaften werden erfüllt:

- Nachweis zulässiger Netzurückwirkungen
- Nachweis des Symmetrieverhaltens von Drehstromumrichtereinheiten
- Nachweis des Verhaltens der Erzeugungseinheit am Netz
- Nachweis der dynamischen Netzstützung
- Nachweis der Teilnahmefähigkeit am Erzeugungsmanagement / Netzsicherheitsmanagement

**Das Zertifikat beinhaltet folgende Angaben:**

- Technische Daten der Erzeugungseinheiten, der eingesetzten Hilfseinrichtungen und der verwendeten Softwareversion
- Zusammengefasste Angaben zu den Eigenschaften der Erzeugungseinheit (Wirkungsweise)

**Berichtsnummer:** PVDE200220N017-R1

**Zertifizierungsprogramm:** NSOP-0032-DEU-ZE-V01

**Zertifikatsnummer:** U20-0580

**Ausstellungsdatum:** 2020-07-16



Zertifizierungsstelle der Bureau Veritas Consumer Products Services Germany GmbH akkreditiert nach DIN EN ISO/IEC 17065

Eine auszugsweise Darstellung des Zertifikats bedarf der schriftlichen Genehmigung der Bureau Veritas Consumer Products Services Germany GmbH

## **Manufacturer's Declaration for Inverter integrated NA-Protection (NA-Schutz)**

**Manufacturer's declaration on the use of the inverter internal AC coupling relays as an integrated coupling switch in connection with a central Power and Plant protection device (NA protection) in accordance with the requirements of VDE-AR-N 4105:2018-11 and VDE-AR-N 4110.**

Huawei Technologies Co., Ltd. hereby confirms that the inverter internal AC coupling relays are capable of performing the function of an integrated coupling switch in conjunction with a central NA protection in accordance with the requirements of VDE-AR-N 4105:2018-11 and VDE-AR-N 4110:2018-11. This applies to below listed Huawei inverter models.

The combination of a central NA protection along with integrated AC coupling relays fulfils the requirements for tie breakers as well as for the function control according to VDE-AR-N 4105:2018-11 and/or VDE-AR-N 4110:2018-11.

As such, a single fault does not lead to loss of the protective function. A functional test of the inverter integrated AC coupling relays is performed each time prior to grid connection. Thus a connection of the inverter with faulty AC coupling relay(s) is impossible.

- The listed inverters comply with VDE-AR-N 4105:2018-11 requirements.
- The grid setting parameters as well as the (total) grid disconnection times are within the required specifications.
- The anti-island detection has been proven by third party testing body.



|                                                                                                                             |                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Huawei Technologies Co., Ltd. hereby confirms conformity to VDE-AR-N 4105:2018-11<br/>for following inverter models:</b> |                                                                                                                                                                                                                                                                     |
| Equipment/Series:                                                                                                           | Huawei FusionSolar SUN2000 Inverter                                                                                                                                                                                                                                 |
| Models:                                                                                                                     | SUN2000-2/3/3.68/4/4.6/5/6KTL-L1/Huawei<br>SUN2000-3/4/5/6/8/10KTL-M0/M1/Huawei<br>SUN2000-12/15/17/20KTL-M0/M2/Huawei<br>SUN2000-33KTL-A/Huawei<br>SUN2000-36KTL/Huawei<br>SUN2000-30/36/40KTL-M3/Huawei<br>SUN2000-50/60KTL-M0/Huawei<br>SUN2000-100KTL-M1/Huawei |
| Manufacture's Name                                                                                                          | Huawei Technologies Co.,Ltd                                                                                                                                                                                                                                         |

|                                                                                                                             |                                                      |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <b>Huawei Technologies Co., Ltd. hereby confirms conformity to VDE-AR-N 4110:2018-11<br/>for following inverter models:</b> |                                                      |
| Equipment/Series:                                                                                                           | Huawei FusionSolar SUN2000 Inverter                  |
| Models:                                                                                                                     | SUN2000-105KTL-H1/Huawei<br>SUN2000-185KTL-H1/Huawei |
| Manufacture's Name                                                                                                          | Huawei Technologies Co.,Ltd                          |

Signature:



Date:

# EU Type Examination Certificate

Certificate No: TPS-RED500957 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  
SOLAR INVERTER**

**Model(s):**

SUN5000-12K-MAP0, SUN5000-8K-MAP0,  
SUN2000-12K-MAP0, SUN2000-10K-MAP0-BE,  
SUN2000-10K-MAP0, SUN2000-8K-MAP0,  
SUN2000-6K-MAP0, SUN2000-5K-MAP0

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](mailto:ps.zert@tuvsud.com)

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

**Technical Documentation:**

SUN2000MA (v) RED TCF

**Valid from:**

2025-05-20

The RED state of the art for this certificate will be monitored for 5 years after the issue date until 2030-05-15. 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.



( Peter Jia )

# EU Type Examination Certificate

Certificate No: TPS-RED500957 i01

## 1 Equipment Description

SOLAR INVERTER is a radio equipment supporting Wi-Fi at 2.4GHz.

### 1.1 Models

|          | Model                                                                                                                                                              | HW Version      | SW Version                                                                                                                                                                                                                               | OS Version |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Original | SUN5000-12K-MAP0,<br>SUN5000-8K-MAP0,<br>SUN2000-12K-MAP0,<br>SUN2000-10K-MAP0-BE,<br>SUN2000-10K-MAP0,<br>SUN2000-8K-MAP0,<br>SUN2000-6K-MAP0,<br>SUN2000-5K-MAP0 | EN61CTLWA01 H.2 | SUN2000MA V200R024C00SPC<br>[XXX] (The identifier placeholder XXX<br>indicates a bug fix or patch version<br>only, which does not change any<br>cyber security function. XXX = 000-<br>999 and is increased for each update<br>release.) | LiteOS 208 |

### 1.2 Supported Functions and Features

#### 1.2.1 Non-radio features

Rated Input: 220/230/240 VAC; 3(N)~; 50/60Hz.

Ports: Ethernet Port

#### 1.2.2 Radio features

| Radio                 | Feature         | Operating Spectrum / Power |        |
|-----------------------|-----------------|----------------------------|--------|
| IEEE 802.11 – 2.4 GHz | b/g/n, Adaptive | 2400-2483.5 MHz            | 20 dBm |

### 1.3 Accessories

| Model / Part Number | Description                                  | HW Version | SW Version                                                                                                                                                                                                                            |
|---------------------|----------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SDongleB-06-EU      | Smart Dongle supports Wi-Fi,<br>GSM and LTE. | F.2        | SDongle V200R022C10SPC[XXX]<br>(The identifier placeholder XXX<br>indicates a bug fix or patch version<br>only, which does not change any<br>cyber security function. XXX = 000-<br>999 and is increased for each update<br>release.) |
| SDongleA-05         | Smart Dongle supports Wi-Fi.                 |            |                                                                                                                                                                                                                                       |

# EU Type Examination Certificate

Certificate No: TPS-RED500957 i01

## 2 Assessed Standards

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

## 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 SUN2000-12K-MAP0 (v) for CE (draft) | Dated  | 2025-05-19 |
| Model difference declaration letter                               | Issued | 2025-05-14 |

### 3.3 Strategic Documentation

|                                                             |          |            |
|-------------------------------------------------------------|----------|------------|
| Risk Assessment Letter of SUN2000-12K-MAP0 (v) for RED      | Issued   | 2025-03-21 |
| Justification of Compliance of SUN2000-12K-MAP0 (v) for RED | Modified | 2025-05-16 |

### 3.4 Technical Compliance Documentation

#### 3.4.1 Article 3.3(d)

|               |        |            |
|---------------|--------|------------|
| 6818924070101 | Issued | 2025-05-06 |
|---------------|--------|------------|

## 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.