



**BUREAU
VERITAS**

Type Certificate

Applicant: Huawei Technologies Co., Ltd.
Address: Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129 P.R. China

Type of power generating unit: Technical data:	Grid-tied photovoltaic inverter	SUN2000-168KTL-H1	SUN2000-185KTL-H1
	Rated active power:		150 kW
Rated apparent:		150 kVA	175 kVA
Max. apparent power:		168 kVA	185 kVA
Nominal voltage:	800 V (3P+ PE)		
Nominal frequency:	50 Hz		
Firmware version:	V300R001		

Validated type model:	Model file:	Huawei_19-0650_0_TR4_SUN2000-168-185KTL_V1.zip
	Identification number (MD5):	231c3a9d556ca31639da30839c3f73d0

Grid connection regulation: **VDE-AR-N 4110:2018-11** – Technical requirements for the connection and operation of customer installations to the medium voltage network (TCR medium voltage) [1]
VDE-AR-N 4120:2018-11 – Technical requirements for the connection and operation of customer installations to the high voltage network (TCR high voltage) [2]

Pertinent standards / Guidelines: Technical guidelines: FGW TR 3 Rev. 25 [3], FGW TR 4 Rev. 09 [4], FGW TR 8 Rev. 09 [5]

The power generating units, stated in the certificate, were tested and certified according to the technical guidelines referenced to the grid connection regulation. The electrical characteristics fulfil the requirements of the grid connection regulation:

- Quasi-steady-state operation
- Dynamic network stability (reactive current characteristic according to TCR medium voltage & TCR high voltage)
- Active power output and network security management
- Active power adjustment as a function of the grid frequency
- Protection technology and protection settings on generating unit level (Note in annex p.45) *
- Power quality

There are no restrictions or deviations. (* A connecting terminal plate has to be installed separately if necessary.)
The manufacturer has provided proof of certification of the quality management system of his production facility in accordance with ISO 9001

The certificate includes the following information:

- technical data of the power generating unit, the auxiliary equipment used and the software version used;
- schematic structure of the power generating units;
- summarized information on the properties of the power generating unit.

The certificate is comprised of 77 pages (including Annex of 76 pages).

BV project number : 19TH0240
Certificate no. : 19-0650_0
Issued : 2019-12-23
Certification scheme : NSOP-0032-DEU-ZE-V01
Valid until : 2024-12-22

Certification body



Holger Schaffer



Certification body of Bureau Veritas Consumer Products Services Germany GmbH accredited according to DIN EN ISO/IEC 17065

A partial representation of the certificate requires the written approval of Bureau Veritas Consumer Products Services Germany GmbH