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VERITAS**

Type Certificate

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

Type of power generating unit:	Grid-tied photovoltaic inverter *	SUN2000-8KTL	SUN2000-20KTL
Technical data:	Maximum apparent power:	8,8 kVA	22,0 kVA
	Nominal apparent power:	8,0 kVA	20,0 kVA
	Nominal active power:	8,0 kW	20,0 kW
	Maximum active power: ($\cos\phi = 0,95$; $U = 0,95 U_n$)	8,3 kW	20,9 kW
	Nominal voltage:	400 / 230 V (3 phases + (N) + PE)	
	Nominal frequency:	50 Hz	

Firmware version: **V100R001D01**
Grid connection regulation: **BDEW guideline „Generating Plants connected to the Medium-Voltage Network“**
Guideline for generating plants' connection to and parallel operation with the medium-voltage network, 2008 and amendment up to 1/2013
Pertinent standards / Guidelines: DIN EN 61400-21:2008
Technical guidelines: FGW TG 3 Rev. 24, FGW TG 4 Rev. 8, FGW TG 8 Rev. 8

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

- Generation and control of active and reactive power
- Generating unit's reaction to system incidents (Reactive current characteristic according to TransmissionCode 2007)
- Protection on generating unit level (Note in appendix p.64) **
- Report of power quality
- Validated type model: *Huawei_18-0440_0_TR4_SUN2000-xxKTL_V1*

The manufacturer has proven the certification of his quality management system according to ISO 9001.

* : For further certified PGUs see supplement of certificate p.2.

** : A connecting terminal plate has to be installed separately if necessary.

The certificate includes the following information:

- Technical data of the power generating units, additional components and implemented software versions
- The schematic layout of the power generating units
- Summarized information on the characteristic of the power generating units

BV project number: 12TH0607
Certificate no.: 18-0440_0
Issued: 2018-08-10 **Valid until:** 2023-08-09

Certification body

Holger Schaffer

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Supplement of Certificate (18-0440_0)

Type of power generating unit:	Grid-tied photovoltaic inverter	SUN2000-12KTL	SUN2000-17KTL
Technical data:	Maximum apparent power:	13,2 kVA	18,7 kVA
	Nominal apparent power:	12,0 kVA	17,0 kVA
	Nominal active power:	12,0 kW	17,0 kW
	Maximum active power: ($\cos\phi = 0,95$; $U = 0,95 U_n$)	12,5 kW	17,7 kW
	Nominal voltage:	400 / 230 V (3 phases + (N) + PE)	
	Nominal frequency:	50 Hz	

BV project number: 12TH0607
Certificate no.: 18-0440_0
Issued: 2018-08-10

Valid until: 2023-08-09

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