



**BUREAU
VERITAS**

Type Certificate

Applicant: **Shenzhen Growatt New Energy Technology Co., Ltd**
1st East & 3rd Floor of Building A, Building B, Jiayu Industrial Park, #28, GuangHui Road, LongTeng Community, Shiyan Street, Baoan District, Shenzhen
P.R. China

Type of power generating unit:	Grid-tied photovoltaic inverter	MAX 80KLT3 LV *
Technical data:	Nominal apparent power:	80 kVA *
	Nominal active power	<i>see nominal apparent power *</i>
	Max. active power: ($\cos\phi = 0,95$; $U = 0,95 U_n$)	80 kW *
	Nominal voltage:	400 / 230 V (3 phases + (N) + PE)
	Nominal frequency:	50 / 60 Hz **

Firmware version: **T11.0**
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.62) ***
- Report of power quality
- Validated type model: Growatt_18-0652_0_TR4_MAX 50-80KLT3 LV_V1

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

* : For details see supplement of certificate.

** : Only the configuration with 50 Hz was tested.

*** : 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: 18TH0511
Certificate no.: 18-0652_0
Issued: 2018-12-07 **Valid until:** 2023-12-06

Certification body

Holger Schaffer

(Any partial reproduction or representation of the certificate requires written approval from Bureau Veritas Consumer Products Services Germany GmbH.)



Certification body of Bureau Veritas Consumer Products Services Germany GmbH
accredited according to EN 17065

(p.1 of 100)



**BUREAU
VERITAS**

Supplement of Certificate (18-0652_0)

Unit / Type..... :	MAX 50KLT3 LV	MAX 60KLT3 LV
Maximum apparent output power [kVA] . :	55,5	66,6
Nominal apparent output power [kVA].... :	50,0	60,0
Maximum active output power [kW] :	50,0	60,0
Nominal active output power [kW]..... :	50,0	60,0
Max. active power ($\cos\phi = 0,95$; $U = 0,95 U_n$) [kW]..... :	50,0	60,0
Nominal output AC voltage [V] :	400 / 230 V (3 phases + (N) + PE)	
Nominal frequency [Hz]..... :	50 / 60 Hz *	

Unit / Type..... :	MAX 70KLT3 LV	MAX 80KLT3 LV
Maximum apparent output power [kVA] . :	77,7	88,8
Nominal apparent output power [kVA].... :	70,0	80,0
Maximum active output power [kW] :	70,0	80,0
Nominal active output power [kW]..... :	70,0	80,0
Max. active power ($\cos\phi = 0,95$; $U = 0,95 U_n$) [kW]..... :	70,0	80,0
Nominal output AC voltage [V] :	400 / 230 V (3 phases + (N) + PE)	
Nominal frequency [Hz]..... :	50 / 60 Hz *	

Note:
* Only the configuration with 50 Hz was tested.

BV project number: 18TH0511
Certificate no.: 18-0652_0
Issued: 2018-12-07

Valid until: 2023-12-06

Certification body

Holger Schaffer



Deutsche
Akkreditierungsstelle
D-ZE-12024-01-00

(Any partial reproduction or representation of the certificate requires written approval from Bureau Veritas Consumer Products Services Germany GmbH.)

Certification body of Bureau Veritas Consumer Products Services Germany GmbH
accredited according to EN 17065

(p.2 of 100)