

P O W E R
- I N G ●
T O M O -
R R O W ●



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twitter&facebook: Growatt New Energy

GR-CA-010-01

Smart
Photovoltaic
Inverter
Series

2019

Growatt powering tomorrow



COMPANY PROFILE

Growatt is a new energy enterprise dedicated to the R&D and manufacturing of PV inverters including on-grid, off-grid and storage inverters, and user side smart energy management solutions as well. The power capacity of Growatt on-grid inverters ranges from 1 kW to 100 kW, meanwhile its off-grid and storage inverters cover a power range from 1 kW to 630 kW. Growatt inverters are extensively used worldwide for applications in residential, commercial, utility-scale scenarios as well as other storage power station projects.



2018
—
2010



1200000+
Total 1200000
shipments worldwide

Since its foundation in 2010, Growatt has established branch offices one after another in Germany, US, UK, Australia, Thailand, India, Netherlands, etc in order to better serve the customers across the globe. Growatt always sticks to the R&D investment and technology innovation, and provides customers with premium products and services through its core inverter technology, rigorous quality control and continuous improvement of customer service. By end of September 2018, Growatt has shipped over 1.2 million inverters to over 100 countries and regions across the globe, growing into a Global Top 10 Inverter Brand and becoming the No.1 Chinese Residential PV Inverter Brand.

Growatt really concerns about the R&D investment each year the R&D cost takes at least 15% of total investment. And Growatt will continue to integrate global resources, promote technology innovation and strive to lead in providing user side smart energy solutions across the world.



100+
100 countries
and regions across the globe

BRAND POWER

NO.1

NO.1 CHINESE RESIDENTIAL
PV INVERTER SUPPLIER

Total more than 900000 residential inverters installed globally since 2010
Every 3 inverters installed in China, 1 is Growatt

TOP10

GLOBAL TOP10
PV INVERTER SUPPLIER

IHS 2017 ranking top10
BRIDGE TO INDIA ranking Top3 rooftop India
EUPD top inverter brand Netherland

CORE TECHNOLOGY WITHIN

DOUBLE A+

LEADING EFFICIENCY

2014 Photon double A+ grading, 99.06% peak efficiency, global No.2, HE series 20KW string inverter

2018 China Weighted efficiency 98.67%, NO.1 in China and 0.3% higher than average level, MAX series 90KW string inverter.

99.06%

98.67%

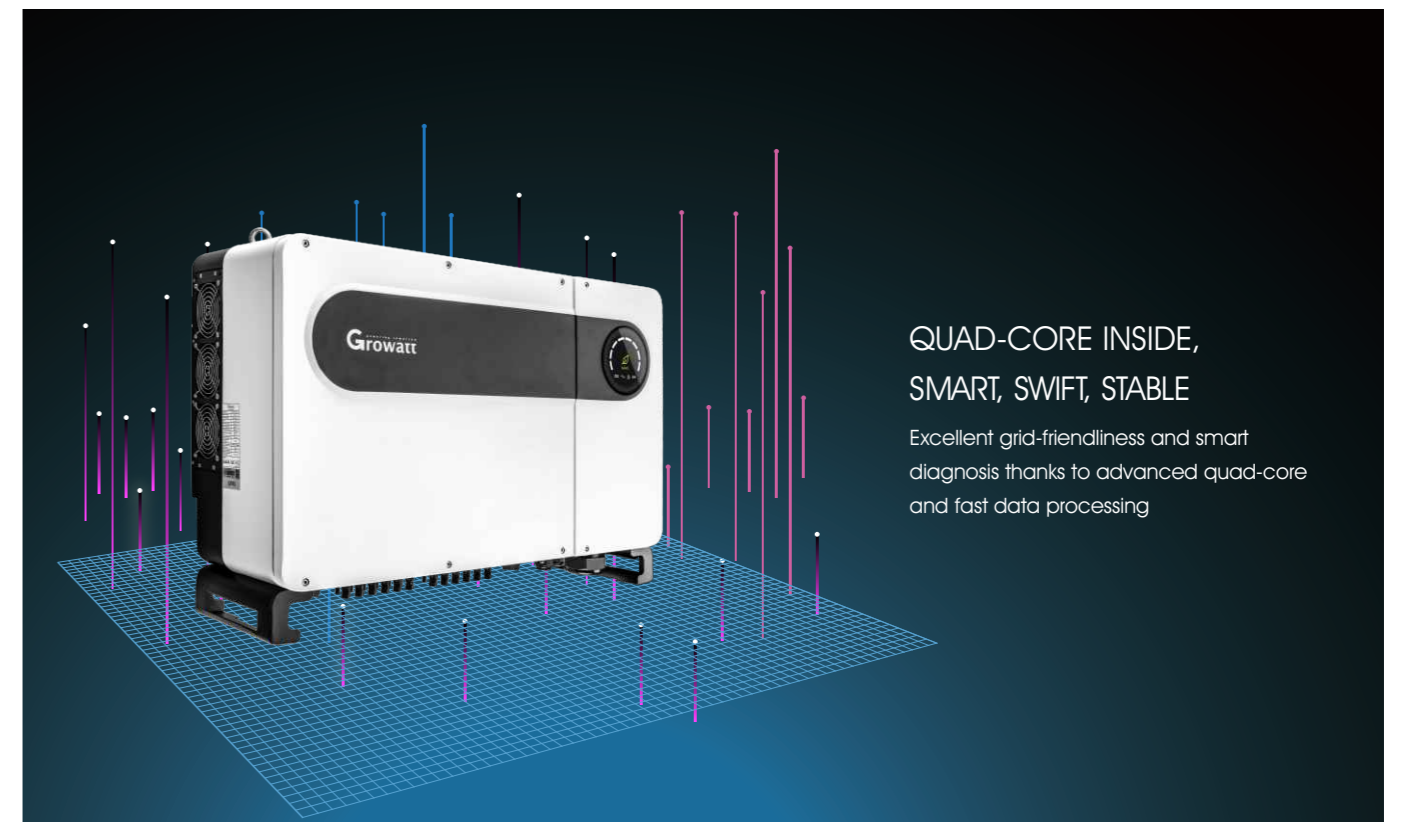
70+

70+ PATENTS AND COPYRIGHTS

6 international patents, 59 Chinese patents, 8 software copyrights



TOTAL 1200000
SHIPMENTS WORLDWIDE



QUAD-CORE INSIDE,
SMART, SWIFT, STABLE

Excellent grid-friendliness and smart diagnosis thanks to advanced quad-core and fast data processing

5 QUALITY ENGINEERING

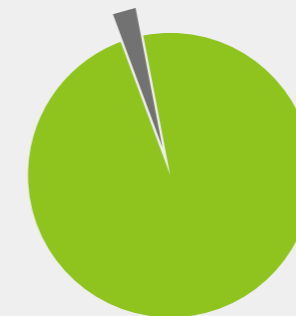
Outstanding 5 quality engineering throughout the whole process from development to mass production, full guarantee of product quality and reliability

- Design engineering (70+ strict test and evaluation, multiple validation)
- Component engineering (First-class components, professional component engineers strictly control component sourcing, spec verification and approval)
- Test engineering (dedicated test department to fairly judge the function and reliability of R&D prototype)
- Environment and reliability engineering (strict mechanical reliability, environment reliability and long term reliability test)
- Manufacturing engineering (high standard, smart and automated manufacturing line)



DURABILITY AS ALWAYS

The only Chinese inverter manufacturer has over 200,000 inverters running more than 5 years.



Total failure rate less than
2‰

GLOBAL NETWORK

SMART ONLINE OSS

Powerful smart O&M platform enabling system integrators to manage plants and devices easily, more than 4000 system integrators using online diagnosis and remote O&M functions which helps them reduce O&M cost.



O&M TRAINING

Provide O&M trainings regularly to global installers and distributors to enhance their service capability and competitiveness.



GLOBAL SERVICE CENTERS

Provide technical consulting, spare part, replacement, onsite services

Headquarter Office

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info@ginverter.com (Sales)

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usa@ginverter.com

Hongkong Office

Service
+0086 755 2951 5888
info@ginverter.com

India Office

Service Center
1800 120 600 600

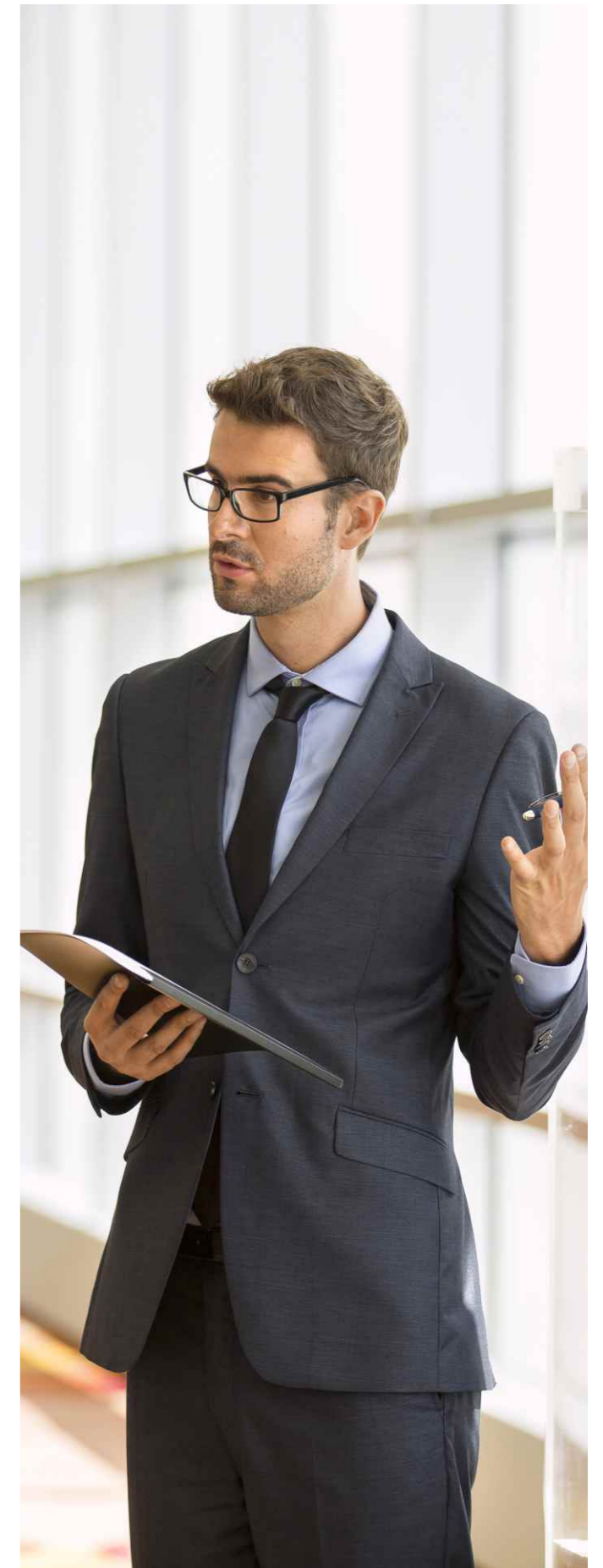


SHINE ELITE

Growatt ShineElite is the earliest organization to open offline training activities in China. It organizes more than 30 offline trainings every year, spreads PV knowledge, provides PV market information to potential people who are interested in PV industry around the world, exchanges and shares industry experience, its footprint covers more than 40 cities around the world, affecting professionals of 80000+.



ShineElite has established a forum as well, an open platform focusing on providing marketing tools for distributors train their sales, also solar power design tools- Shine Design to help design and build solar farm.



GROWATT SMART PHOTOVOLTAIC INVERTER SERIES



Residential on-grid inverters



Commercial on-grid inverters



Large commercial and utility grade on-grid inverters



Residential storage inverters



Commercial storage inverters



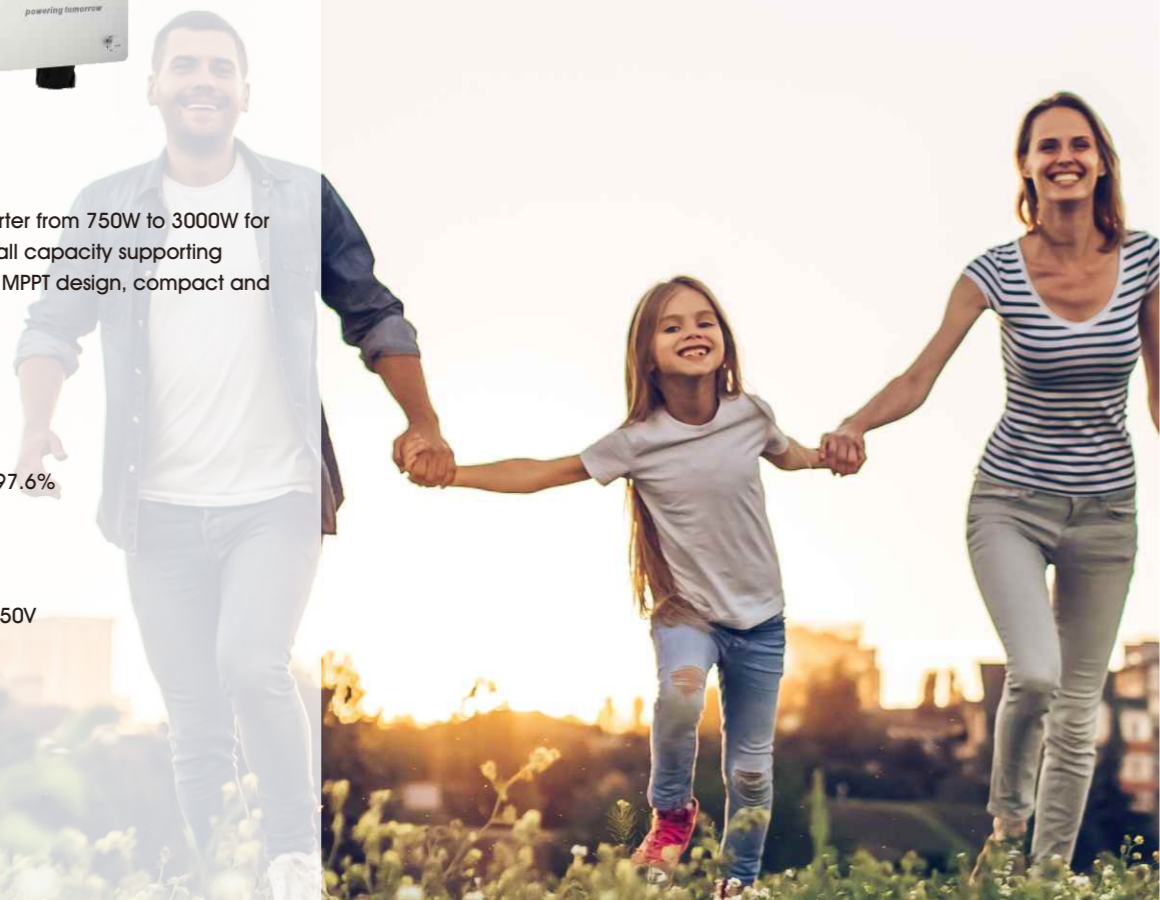
Monitoring solutions

Growatt 750~3000 -S



Single phase grid-tied inverter from 750W to 3000W for residential application, small capacity supporting small roof utilization. single MPPT design, compact and cost effective.

- Maximum efficiency of 97.6%
- Optional DC switch
- Max.DC voltage up to 550V
- Flexible Interfaces



GROWATT · PRODUCT

| Datasheet | 750-S | 1000-S | 1500-S | 2000-S | 2500-S | 3000-S |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Input Data | | | | | | |
| Max. recommended PV power (for module STC) | 970W | 1300W | 1950W | 2600W | 3250W | 3900W |
| Max. DC voltage | 450V | 450V | 450V | 450V | 550V | 550V |
| Start voltage | 50V | 80V | 80V | 80V | 80V | 80V |
| PV voltage range | 50V-450V | 70V-450V | 70V-450V | 70V-450V | 70V-500V | 70V-550V |
| MPP work voltage range/ nominal voltage | 55V-450V/120V | 70V-450V/180V | 70V-450V/250V | 70V-450V/360V | 70V-500V/360V | 70V-550V/360V |
| Full load dc voltage range | 80V-400V | 110V-400V | 175V-400V | 200V-400V | 250V-450V | 250V-500V |
| Max. input current | 10A | 10A | 10A | 11A | 12A | 13A |
| Max. input current per string | 10A | 10A | 10A | 11A | 12A | 13A |
| Number of independent MPP trackers/strings per MPP tracker | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 |
| Output (AC) | | | | | | |
| Rated AC output power | 750W | 1000W | 1600W | 2000W | 2500W | 3000W |
| Max. AC power | 750W | 1000W | 1650W | 2000W | 2500W | 3000W |
| Max. output current | 3.3A | 4.7A | 7.8A | 9.5A | 11.9A | 14.3A |
| AC nominal voltage | 220V/230V/240V | 220V/230V/240V | 220V/230V/240V | 220V/230V/240V | 220V/230V/240V | 220V/230V/240V |
| AC grid frequency; range | 50Hz/60Hz | 50Hz/60Hz | 50Hz/60Hz | 50Hz/60Hz | 50Hz/60Hz | 50Hz/60Hz |
| Adjustable power factor | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging |
| THDI | <3% | <3% | <3% | <3% | <3% | <3% |
| AC connection | Single phase | Single phase | Single phase | Single phase | Single phase | Single phase |
| Efficiency | | | | | | |
| Max. efficiency | 97.2% | 97.4% | 97.4% | 97.4% | 97.6% | 97.6% |
| Euro weighted efficiency | 96% | 96.5% | 97% | 97% | 97.3% | 97.3% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% |
| Protection Devices | | | | | | |
| DC reverse polarity protection | yes | yes | yes | yes | yes | yes |
| DC switch | yes | yes | yes | yes | yes | yes |
| Output over current protection | yes | yes | yes | yes | yes | yes |
| Output AC overvoltage Protection - Varistor | yes | yes | yes | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes | yes | yes | yes |
| Grid monitoring | yes | yes | yes | yes | yes | yes |
| Integrated all-pole sensitive leakage current monitoring unit | yes | yes | yes | yes | yes | yes |
| General Data | | | | | | |
| Dimensions (W / H / D) in mm | 271/299/141 | 271/299/141 | 271/299/141 | 271/299/141 | 271/359/141 | 271/359/141 |
| Weight | 6.4KG | 6.4KG | 6.4KG | 6.4KG | 9.1KG | 9.1KG |
| Operating temperature range | - 25°C ... +60°C | - 25°C ... +60°C | - 25°C ... +60°C | - 25°C ... +60°C | - 25°C ... +60°C | - 25°C ... +60°C |
| Noise emission (typical) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) |
| Self-Consumption night | <0.5 W | <0.5 W | <0.5 W | <0.5 W | <0.5 W | <0.5 W |
| Topology | Transformerless | Transformerless | Transformerless | Transformerless | Transformerless | Transformerless |
| Cooling concept | Natural | Natural | Natural | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 | IP65 | IP65 |
| Altitude | 2000m without derating | 2000m without derating | 2000m without derating | 2000m without derating | 2000m without derating | 2000m without derating |
| Relative humidity | 100% | 100% | 100% | 100% | 100% | 100% |
| Features | | | | | | |
| DC connection | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) |
| AC connection | Connector | Connector | Connector | Connector | Connector | Connector |
| Display | LCD | LCD | LCD | LCD | LCD | LCD |
| Interfaces: RS232/RF/Wi-Fi/LAN/GPRS | yes/opt/opt/opt/opt | yes/opt/opt/opt/opt | yes/opt/opt/opt/opt | yes/opt/opt/opt/opt | yes/opt/opt/opt/opt | yes/opt/opt/opt/opt |
| Warranty:5 years/10 years | yes/opt | yes/opt | yes/opt | yes/opt | yes/opt | yes/opt |

Growatt 2500~5500 MTL-S



Single phase grid-tied inverter up to 5000W for residential application, suitable for bigger roofs. dual MPPT, more flexible for PV string design compact and cost effective.

- Maximum efficiency 97.9%
- Dual MPP trackers
- Max.DC voltage up to 550V
- Flexible Interfaces



GROWATT · PRODUCT

| Datasheet | 2500MTL-S | 3000MTL-S | 3600MTL-S | 4200MTL-S | 5000MTL-S | 5500MTL-S |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Input Data | | | | | | |
| Max. recommended PV power (for module STC) | 3250W | 3900W | 4680W | 5460W | 5980W | 6500W |
| Max. DC voltage | 500V | 500V | 550V | 550V | 550V | 550V |
| Start voltage | 100V | 100V | 100V | 100V | 100V | 100V |
| MPP work voltage range/nominal voltage | 80V-500V /360V | 80V-500V /360V | 80V-550V /360V | 80V-550V /360V | 80V-550V /360V | 80V-550V /360V |
| Full load dc voltage range | 130V-450V | 160V-450V | 190V-500V | 150V-500V | 160V-500V | 175V-500V |
| Max. input current of tracker A/ tracker B | 10A/10A | 10A/10A | 10A/10A | 15A/15A | 15A/15A | 15A/15A |
| Max. input current per string of tracker A/tracker B | 10A/10A | 10A/10A | 10A/10A | 15A/15A | 15A/15A | 15A/15A |
| Number of independent MPP trackers / strings per MPP tracker | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 |
| Output (AC) | | | | | | |
| Rated AC output power | 2500W | 3000W | 3600W | 4200W | 4600W | 5000W |
| Max. AC apparent power | 2500VA | 3000VA | 3600VA | 4200VA | 4600VA | 5000VA |
| Max. output current | 11.3A | 13.6A | 16.3A | 19A | 20.9A | 22.7A |
| AC nominal voltage; range | 220V/230V /240V; 180Vac-280Vac | 220V/230V/240V; 180Vac - 280Vac | 220V/230V/240V; 180Vac - 280Vac | 220V,230V,240V; 180Vac - 280Vac | 220V,230V,240V; 180Vac - 280Vac | 220V,230V,240V; 180Vac - 280Vac |
| AC grid frequency; range | 50Hz,60Hz / ±5Hz | 50Hz,60Hz / ±5Hz | 50Hz,60Hz / ±5Hz | 50Hz,60Hz / ±5Hz | 50Hz,60Hz / ±5Hz | 50Hz,60Hz / ±5Hz |
| Displacement power factor, configurable | 0.8leading... 0.95lagging | 0.8leading... 0.95lagging | 0.8leading... 0.95lagging | 0.8leading... 0.95lagging | 0.8leading... 0.95lagging | 0.8leading... 0.95lagging |
| THDi | <3% | <3% | <3% | <3% | <3% | <3% |
| AC connection | Single phase | Single phase | Single phase | Single phase | Single phase | Single phase |
| Efficiency | | | | | | |
| Max. efficiency | 97.6% | 97.6% | 97.9% | 97.9% | 97.9% | 97.9% |
| Euro weighted efficiency | 97% | 97% | 97.4% | 97.4% | 97.4% | 97.4% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% |
| Protection Devices | | | | | | |
| DC reverse polarity protection | yes | yes | yes | yes | yes | yes |
| DC switch rating for each MPPT | yes | yes | yes | yes | yes | yes |
| Output over current protection | yes | yes | yes | yes | yes | yes |
| Output over voltage protection-varistor | yes | yes | yes | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes | yes | yes | yes |
| Grid monitoring | yes | yes | yes | yes | yes | yes |
| Integrated all - pole sensitive leakage current monitoring unit | yes | yes | yes | yes | yes | yes |
| General Data | | | | | | |
| Dimensions (W / H / D) in mm | 355/419/138 | 355/419/138 | 355/419/138 | 355/419/138 | 355/419/158 | 355/419/158 |
| Weight | 14KG | 14KG | 14KG | 14KG | 14.5KG | 14.5KG |
| Operating temperature range | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C |
| Noise emission (typical) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) |
| Altitude | 2000m without derating | 2000m without derating | 2000m without derating | 2000m without derating | 2000m without derating | 2000m without derating |
| Self-Consumption night | < 0.5 W | < 0.5 W | < 0.5 W | < 0.5 W | < 0.5 W | < 0.5 W |
| Topology | Transformerless | Transformerless | Transformerless | Transformerless | Transformerless | Transformerless |
| Cooling concept | Natural | Natural | Natural | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 | IP65 | IP65 |
| Relative humidity | 100% | 100% | 100% | 100% | 100% | 100% |
| Features | | | | | | |
| DC connection | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) |
| AC connection | Connector | Connector | Connector | Connector | Connector | Connector |
| Display | LCD | LCD | LCD | LCD | LCD | LCD |
| Interfaces: RS232 / RJ45 / RF / Wi-Fi / LAN / GPRS | yes / yes / opt / opt / opt / opt | yes / yes / opt / opt / opt / opt | yes / yes / opt / opt / opt / opt | yes / yes / opt / opt / opt / opt | yes / yes / opt / opt / opt / opt | yes / yes / opt / opt / opt / opt |
| Warranty: 5 years / 10 years | yes / opt | yes / opt | yes / opt | yes / opt | yes / opt | yes / opt |

CE, IEC62109, G83, VDE0126-1-1, UTE C 15-712,G59, AS4777, AS/NZS 3100, CEIO-21, VDE-AR-N4105, EN50438, CQC, IEC 61683, IEC 60068, IEC 61727, IEC 62116, INMETRO

Growatt 2500~6000 TL-X



Most up-to-date smart grid-tied inverter for single phase residential application. innovative aerial material cover, elegant looking and 45% lighter. the OLED screen and touch button design brings more convenient operation. leading high efficiency ensures high energy yields of a home system .

- Maximum efficiency 98.4%
- Dual MPP trackers
- Type II SPD on DC side
- Supports export control
- Touch key and OLED display

NEW



GROWATT · PRODUCT

| Datasheet | 2500TL-X | 3000TL-X | 3600TL-X | 4200TL-X | 5000TL-X | 6000TL-X |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Input Data | | | | | | |
| Max. recommended PV power (for module STC) | 3500W | 4200W | 5040W | 5880W | 7000W | 8100W |
| Max. DC voltage | 500V | 500V | 550V | 550V | 550V | 550V |
| Start voltage | 100V | 100V | 100V | 100V | 100V | 100V |
| MPP work voltage range/ nominal voltage | 80V-550V /360V | 80V-550V /360V | 80V-550V /360V | 80V-550V /360V | 80V-550V /360V | 80V-550V /360V |
| Max. input current | 12.5A/12.5A | 12.5A/12.5A | 12.5A/12.5A | 12.5A/12.5A | 12.5A/12.5A | 12.5A/12.5A |
| Max. short-circuit current | 16A/16A | 16A/16A | 16A/16A | 16A/16A | 16A/16A | 16A/16A |
| Number of independent MPP trackers / strings per MPP tracker | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 |
| Output (AC) | | | | | | |
| Rated AC output power | 2500W | 3000W | 3600W | 4200W | 5000W ^{*1} | 6000W |
| Max. AC apparent power | 2500VA | 3000VA | 3600VA | 4200VA | 5000VA | 6000VA |
| Max. output current | 11.3A | 13.6A | 16A | 19A | 22.7A ^{*2} | 27.2A |
| AC nominal voltage | 230V(184V-274V) | 230V(184V-274V) | 230V(184V-274V) | 230V(184V-274V) | 230V(184V-274V) | 230V(184V-274V) |
| AC grid frequency | 50Hz/60Hz ±5Hz | 50Hz/60Hz ±5Hz | 50Hz/60Hz ±5Hz | 50Hz/60Hz ±5Hz | 50Hz/60Hz ±5Hz | 50Hz/60Hz ±5Hz |
| Adjustable power factor | 0.8leading... 0.8lagging | 0.8leading... 0.8lagging | 0.8leading... 0.8lagging | 0.8leading... 0.8lagging | 0.8leading... 0.8lagging | 0.8leading... 0.8lagging |
| THDI | <3% | <3% | <3% | <3% | <3% | <3% |
| AC connection | Single phase | Single phase | Single phase | Single phase | Single phase | Single phase |
| Efficiency | | | | | | |
| Max. efficiency | 98.2% | 98.2% | 98.2% | 98.4% | 98.4% | 98.4% |
| Euro weighted efficiency | 97.1% | 97.1% | 97.2% | 97.5% | 97.5% | 97.5% |
| MPPT efficiency | 99.9% | 99.9% | 99.9% | 99.9% | 99.9% | 99.9% |
| Protection Devices | | | | | | |
| DC reverse polarity protection | yes | yes | yes | yes | yes | yes |
| DC switch | yes | yes | yes | yes | yes | yes |
| DC surge protection | Type II | Type II | Type II | Type II | Type II | Type II |
| Output over current protection | yes | yes | yes | yes | yes | yes |
| Output over voltage protection-varistor | yes | yes | yes | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes | yes | yes | yes |
| Grid monitoring | yes | yes | yes | yes | yes | yes |
| Integrated all - pole sensitive leakage current monitoring unit | yes | yes | yes | yes | yes | yes |
| General Data | | | | | | |
| Dimensions (W / H / D) in mm | 415/378/143 | 415/378/143 | 415/378/143 | 415/378/143 | 415/378/143 | 415/378/143 |
| Weight | 10.8KG | 10.8KG | 10.8KG | 10.8KG | 10.8KG | 10.8KG |
| Operating temperature range | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C |
| Noise emission (typical) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) | ≤25 dB(A) |
| Altitude | 4000m | 4000m | 4000m | 4000m | 4000m | 4000m |
| Self-Consumption night | < 0.5 W | < 0.5 W | < 0.5 W | < 0.5 W | < 0.5 W | < 0.5 W |
| Topology | Transformerless | Transformerless | Transformerless | Transformerless | Transformerless | Transformerless |
| Cooling concept | Natural | Natural | Natural | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 | IP65 | IP65 |
| Relative humidity | 100% | 100% | 100% | 100% | 100% | 100% |
| Features | | | | | | |
| DC connection | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) |
| AC connection | Connector | Connector | Connector | Connector | Connector | Connector |
| Display | OLED+LED | OLED+LED | OLED+LED | OLED+LED | OLED+LED | OLED+LED |
| Interfaces: RS485 / USB / Wi-Fi / 4G / RF | yes / yes / opt / opt / opt | yes / yes / opt / opt / opt | yes / yes / opt / opt / opt | yes / yes / opt / opt / opt | yes / yes / opt / opt / opt | yes / yes / opt / opt / opt |
| Warranty: 5 years / 10 years | yes / opt | yes / opt | yes / opt | yes / opt | yes / opt | yes / opt |

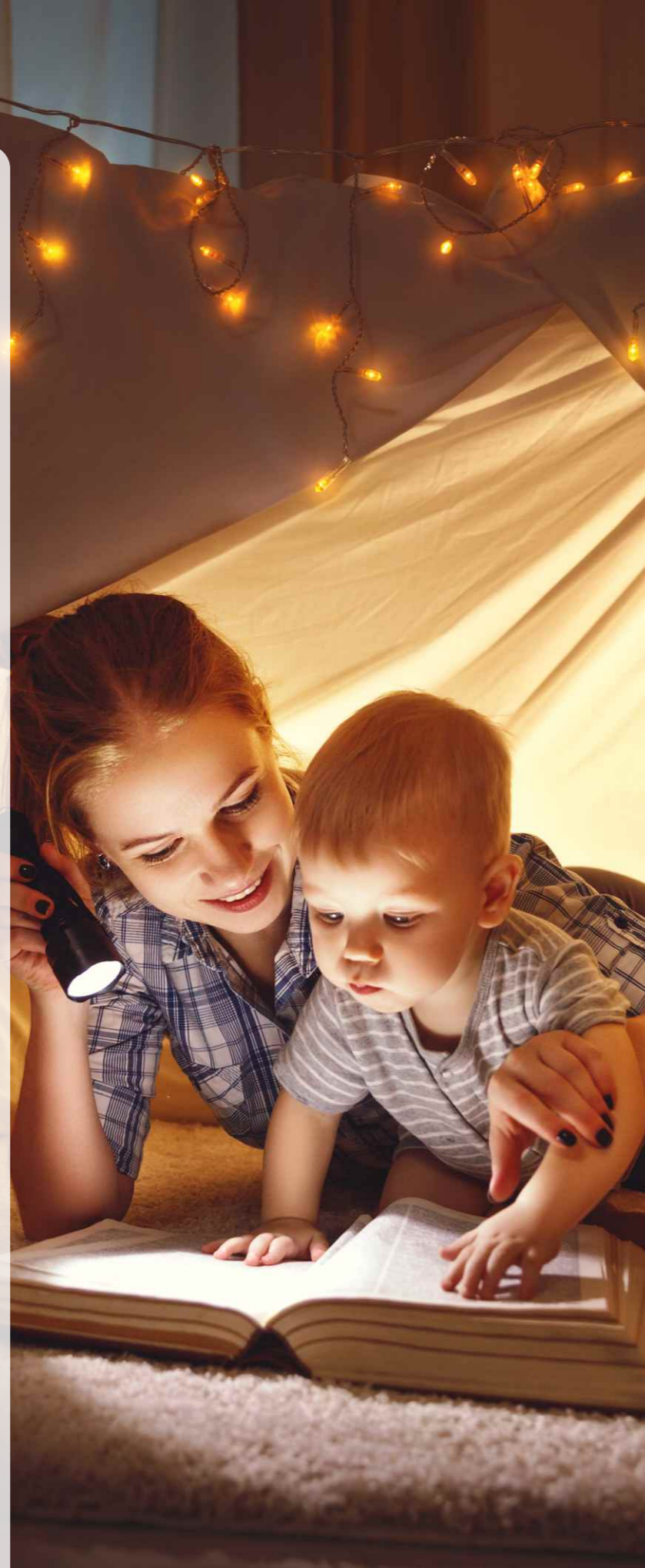
*1 For VDE-AR-N4105 Max. output power is 4600W
*2 For AS4777, Iac max.:21.7A

Growatt 3000~6000 TL3-S



3 phase grid-tied inverter for residential or small commercial rooftop application. fanless design, compact and easy for installation.

- Max. Efficiency 98%
- Dual MPP trackers
- Supports export limitation
- Integrated DC switch
- Max.DC voltage 1000VDC
- Natural cooling



GROWATT · PRODUCT

| Datasheet | 3000TL3-S | 4000TL3-S | 5000TL3-S | 6000TL3-S |
|---|-------------------------|-------------------------|-------------------------|-------------------------|
| Input Data | | | | |
| Max. recommended PV power (for module STC) | 3600W | 4800W | 6000W | 7200W |
| Max. DC voltage | 1000V | 1000V | 1000V | 1000V |
| Start Voltage | 140V | 140V | 140V | 140V |
| PV voltage range | 140V-1000V | 140V-1000V | 140V-1000V | 140V-1000V |
| Nominal voltage | 620V | 620V | 620V | 620V |
| MPP voltage range at Full Power | 160V-800V | 200V-800V | 250V-800V | 290V-800V |
| Max. input current | 11A/11A | 11A/11A | 11A/11A | 11A/11A |
| Number of independent MPP trackers/strings per MPP tracker | 2/1 | 2/1 | 2/1 | 2/1 |
| Output (AC) | | | | |
| Rated AC output power | 3000W | 4000W | 5000W | 6000W |
| Max. AC apparent power | 3000VA | 4000VA | 5000VA | 6000VA |
| Max. output current | 5.1A | 6.8A | 8.5A | 10.2A |
| AC nominal voltage | 230V/400V; 320-478V | 230V/400V; 320-478V | 230V/400V; 320-478V | 230V/400V; 320-478V |
| AC grid frequency | 50Hz/60Hz, ±5Hz | 50Hz/60Hz, ±5Hz | 50Hz/60Hz, ±5Hz | 50Hz/60Hz, ±5Hz |
| Power factor | 0.8leading - 0.8lagging | 0.8leading - 0.8lagging | 0.8leading - 0.8lagging | 0.8leading - 0.8lagging |
| THDI | <3% | <3% | <3% | <3% |
| AC grid connection type | 3W+N+PE | 3W+N+PE | 3W+N+PE | 3W+N+PE |
| Efficiency | | | | |
| Max. efficiency | 97.5% | 97.8% | 98.0% | 98.0% |
| Euro - eta | 96.5% | 96.7% | 96.9% | 97.1% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% | 99.5% |
| Protection Devices | | | | |
| DC reverse polarity protection | yes | yes | yes | yes |
| DC switch | yes | yes | yes | yes |
| Output over current protection | yes | yes | yes | yes |
| Output AC overvoltage Protection - Varistor | yes | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes | yes |
| Grid monitoring | yes | yes | yes | yes |
| Integrated all-pole sensitive leakage current monitoring unit | yes | yes | yes | yes |
| General Data | | | | |
| Dimensions (W / H / D) in mm | 480/448/200 | 480/448/200 | 480/448/200 | 480/448/200 |
| Weight | 21.2kg | 21.2kg | 21.2kg | 21.2kg |
| Operating temperature range | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C |
| Noise emission (typical) | ≤35 dB(A) | ≤35 dB(A) | ≤35 dB(A) | ≤35 dB(A) |
| Altitude | 3000m | 3000m | 3000m | 3000m |
| Self-consumption night | < 0.5W | < 0.5W | < 0.5W | < 0.5W |
| Topology | Transformerless | Transformerless | Transformerless | Transformerless |
| Cooling concept | Natural | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 |
| Relative humidity | 0~100% | 0~100% | 0~100% | 0~100% |
| Features | | | | |
| DC connection | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) |
| AC connection | Connector | Connector | Connector | Connector |
| Display | LCD | LCD | LCD | LCD |
| Interfaces:RS232/RS485/RF/Ethernet/Wi-Fi | yes/yes/opt/opt/opt | yes/yes/opt/opt/opt | yes/yes/opt/opt/opt | yes/yes/opt/opt/opt |
| Warranty:5 years/10 years | yes/opt | yes/opt | yes/opt | yes/opt |

Growatt 7000~11000 TL3-S



3 phase grid-tied inverter for residential or small commercial rooftop application. fanless design, compact and easy for installation.

- Max. Efficiency 98.4%
- Dual MPP trackers
- Supports export limitation
- Integrated DC switch
- Max.DC voltage 1000VDC
- Natural cooling

GROWATT · PRODUCT

| Datasheet | 7000TL3-S | 8000TL3-S | 9000TL3-S | 10000TL3-S | 11000TL3-S |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Input Data | | | | | |
| Max. recommended PV power (for module STC) | 8400W | 9600W | 10800W | 12000W | 13200W |
| Max. DC voltage | 1000V | 1000V | 1000V | 1000V | 1000V |
| Start Voltage | 160V | 160V | 160V | 160V | 160V |
| PV voltage range | 160V-1000V | 160V-1000V | 160V-1000V | 160V-1000V | 160V-1000V |
| Nominal voltage | 600V | 600V | 600V | 600V | 600V |
| MPP voltage range at Full Power | 320V-850V | 360V-850V | 400V-850V | 450V-850V | 450V-850V |
| Max. input current | 11.5A/11.5A | 11.5A/11.5A | 11.5A/11.5A | 13A/13A | 13A/13A |
| Number of independent MPP trackers/strings per MPP tracker | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 |
| Output (AC) | | | | | |
| Rated AC output power | 7kW | 8kW | 9kW | 10kW | 11kW |
| Max. AC apparent power | 7.7kVA | 8.8kVA | 9.9kVA | 11kVA | 12.1kVA |
| Max. output current | 11.7A | 13.3A | 15A | 16.7A | 18.3A |
| AC nominal voltage | 230V/400V; 320-478V | 230V/400V; 320-478V | 230V/400V; 320-478V | 230V/400V; 320-478V | 230V/400V; 320-478V |
| AC grid frequency | 50Hz/60Hz, ±5Hz | 50Hz/60Hz, ±5Hz | 50Hz/60Hz, ±5Hz | 50Hz/60Hz, ±5Hz | 50Hz/60Hz, ±5Hz |
| Power factor | 0.8leading - 0.8lagging | 0.8leading - 0.8lagging | 0.8leading - 0.8lagging | 0.8leading - 0.8lagging | 0.8leading - 0.8lagging |
| THDI | <3% | <3% | <3% | <3% | <3% |
| AC grid connection type | 3W+N+PE | 3W+N+PE | 3W+N+PE | 3W+N+PE | 3W+N+PE |
| Efficiency | | | | | |
| Max. efficiency | 98.3% | 98.3% | 98.4% | 98.4% | 98.4% |
| Euro - eta | 97.5% | 97.8% | 98% | 98% | 98% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% |
| Protection Devices | | | | | |
| DC reverse polarity protection | yes | yes | yes | yes | yes |
| DC switch | yes | yes | yes | yes | yes |
| Output over current protection | yes | yes | yes | yes | yes |
| Output AC overvoltage Protection - Varistor | yes | yes | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes | yes | yes |
| Grid monitoring | yes | yes | yes | yes | yes |
| Integrated all-pole sensitive leakage current monitoring unit | yes | yes | yes | yes | yes |
| General Data | | | | | |
| Dimensions (W / H / D) in mm | 480/448/200 | 480/448/200 | 480/448/200 | 480/448/200 | 480/448/200 |
| Weight | 21.6kg | 21.6kg | 21.6kg | 21.6kg | 21.6kg |
| Operating temperature range | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C |
| Noise emission (typical) | ≤35 dB(A) | ≤35 dB(A) | ≤35 dB(A) | ≤35 dB(A) | ≤35 dB(A) |
| Altitude | 3000m | 3000m | 3000m | 3000m | 3000m |
| Self-consumption night | < 0.5W | < 0.5W | < 0.5W | < 0.5W | < 0.5W |
| Topology | Transformerless | Transformerless | Transformerless | Transformerless | Transformerless |
| Cooling concept | Natural | Natural | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 | IP65 |
| Relative humidity | 0~100% | 0~100% | 0~100% | 0~100% | 0~100% |
| Features | | | | | |
| DC connection | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) |
| AC connection | Screw terminal | Screw terminal | Screw terminal | Screw terminal | Screw terminal |
| Display | LCD | LCD | LCD | LCD | LCD |
| Interfaces:RS232/RS485/RF/WI-FI | yes/yes/opt/opt | yes/yes/opt/opt | yes/yes/opt/opt | yes/yes/opt/opt | yes/yes/opt/opt |
| Warranty:5 years/10 years | yes/opt | yes/opt | yes/opt | yes/opt | yes/opt |

CE, IEC 62109-1/2, VDE 0126-1-1, Greece, VFR 2014, VDE-AR-N4105, G83, EN50438, CEI 0-21, AS4777, IEC 61727, IEC 62116, CQC

Growatt 12000~15000 TL3-S



3 phase grid-tied inverter for commercial rooftop application. fanless design, compact and easy for installation.

- Max. Efficiency 98.4%
- Dual MPP trackers
- Supports export limitation
- Integrated DC switch
- Max.DC voltage 1000VDC
- Natural cooling



GROWATT · PRODUCT

| Datasheet | 12000TL3-S | 13000TL3-S | 15000TL3-S |
|---|------------------------------|------------------------------|------------------------------|
| Input Data | | | |
| Max. recommended PV power (for module STC) | 14400W | 15600W | 18000W |
| Max. DC voltage | 1000V | 1000V | 1000V |
| Start Voltage | 160V | 160V | 160V |
| PV voltage range | 160V-1000V | 160V-1000V | 160V-1000V |
| Nominal voltage | 600V | 600V | 600V |
| MPP voltage range at Full Power | 480V-850V | 480V-850V | 520V-850V |
| Max. input current | 20A/10A | 20A/10A | 20A/10A |
| Number of independent MPP trackers/strings per MPP tracker | 2/2+1 | 2/2+1 | 2/2+1 |
| Output (AC) | | | |
| Rated AC output power | 12kW | 13kW | 15kW |
| Max. AC apparent power | 13.2kVA | 14.3kVA | 16.5kVA |
| Max. output current | 19A | 20.6A | 23.8A |
| AC nominal voltage | 230V/400V 184~275V; 320~478v | 230V/400V 184~275V; 320~478v | 230V/400V 184~275V; 320~478v |
| AC grid frequency | 50/60Hz, ±5Hz | 50/60Hz, ±5Hz | 50/60Hz, ±5Hz |
| Power factor | 0.8leading - 0.8lagging | 0.8leading - 0.8lagging | 0.8leading - 0.8lagging |
| THDI | <3% | <3% | <3% |
| AC grid connection type | 3W+N+PE | 3W+N+PE | 3W+N+PE |
| Efficiency | | | |
| Max. efficiency | 98.4% | 98.4% | 98.4% |
| Euro - eta | 97.8% | 98% | 98% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% |
| Protection Devices | | | |
| DC reverse polarity protection | yes | yes | yes |
| DC switch | yes | yes | yes |
| Output over current protection | yes | yes | yes |
| Output AC overvoltage Protection - Varistor | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes |
| Grid monitoring | yes | yes | yes |
| Integrated all-pole sensitive leakage current monitoring unit | yes | yes | yes |
| General Data | | | |
| Dimensions (W / H / D) in mm | 480/448/200 | 480/448/200 | 480/448/200 |
| Weight | 23.5kg | 23.5kg | 23.5kg |
| Operating temperature range | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C |
| Noise emission (typical) | ≤35 dB(A) | ≤35 dB(A) | ≤35 dB(A) |
| Self-Consumption (night) | <0.5W | <0.5W | <0.5W |
| Topology | Transformerless | Transformerless | Transformerless |
| Cooling concept | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 |
| Altitude | 3000m | 3000m | 3000m |
| Relative Humidity | 0~100% | 0~100% | 0~100% |
| Features | | | |
| DC connection | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) |
| AC connection | Screw terminal | Screw terminal | Screw terminal |
| Display | LCD | LCD | LCD |
| Interfaces:RS232/RS485/RF/Ethernet/Wi-Fi | yes/yes/opt/opt/opt | yes/yes/opt/opt/opt | yes/yes/opt/opt/opt |
| Warranty:5 years/10 years | yes/opt | yes/opt | yes/opt |

Growatt 17000~25000 TL3-S



3 phase grid-tied inverter for commercial rooftop or ground mounted application. Integrated wire box for comprehensive protections.

- Max. Efficiency 98.7%
- Dual MPP trackers
- Supports export limitation
- Integrated DC switch
- String fuse and string monitoring
- PID-recovery function
- Natural cooling
- Type II DC and AC SPDs

GROWATT · PRODUCT

| Datasheet | 17000TL3-S | 20000TL3-S | 25000TL3-S |
|--|---------------------------|---------------------------|---------------------------|
| Input Data | | | |
| Max. recommended PV power (for module STC) | 21250W | 25000W | 31250W |
| Max. DC voltage | 1000V | 1000V | 1000V |
| Start Voltage | 250V | 250V | 250V |
| PV voltage range | 200V - 1000V | 200V - 1000V | 200V - 1000V |
| Nominal voltage | 580V | 580V | 580V |
| Full load MPP voltage range | 400V - 800V | 400V - 800V | 400V - 800V |
| Max. input current | 37.5A/37.5A | 37.5A/37.5A | 37.5A/37.5A |
| Max. input current per string | 12.5A | 12.5A | 12.5A |
| Number of independent MPP trackers/strings per MPP tracker | 2/3 | 2/3 | 2/3 |
| Output (AC) | | | |
| Rated AC output power | 17000W | 20000W | 25000W |
| Max. AC apparent power | 18800VA | 22200VA | 27700VA |
| Max. output current | 27.5A | 32.2A | 40.3A |
| AC nominal voltage | 230V/400V | 230V/400V | 230V/400V |
| AC grid frequency | 50Hz/60Hz | 50Hz/60Hz | 50Hz/60Hz |
| Power factor | 0.8 leading - 0.8 lagging | 0.8 leading - 0.8 lagging | 0.8 leading - 0.8 lagging |
| THDI | <3% | <3% | <3% |
| AC grid connection type | 3W+N+PE | 3W+N+PE | 3W+N+PE |
| Efficiency | | | |
| Max. efficiency | 98.7% | 98.7% | 98.7% |
| Euro - eta | 98.4% | 98.4% | 98.4% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% |
| Protection Devices | | | |
| DC reverse polarity protection | yes | yes | yes |
| DC Switch | yes | yes | yes |
| DC Surge protection | TypeII | TypeII | TypeII |
| Ground fault monitoring | yes | yes | yes |
| Output short circuit protection | yes | yes | yes |
| AC Surge protection | TypeII | TypeII | TypeII |
| String Fuse protection | yes | yes | yes |
| String fault monitoring | yes | yes | yes |
| Anti-PID protection | yes | yes | yes |
| General Data | | | |
| Dimensions (W / H / D) in mm | 470/754/270 | 470/754/270 | 470/754/270 |
| Weight | 48kg | 48kg | 48kg |
| Operating temperature range | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C |
| Noise emission (typical) | ≤40 dB(A) | ≤40 dB(A) | ≤40 dB(A) |
| Self-Consumption (night) | <1W | <1W | <1W |
| Topology | Transformerless | Transformerless | Transformerless |
| Cooling concept | Smart cooling | Smart cooling | Smart cooling |
| Environmental Protection Rating | IP65 | IP65 | IP65 |
| Altitude | 4000m | 4000m | 4000m |
| Relative Humidity | 0~100% | 0~100% | 0~100% |
| Features | | | |
| Display | LED+ LCD | LED+ LCD | LED+ LCD |
| Interfaces: RS232/R485/WIFI | yes / yes / opt | yes / yes / opt | yes / yes / opt |
| Warranty:5 years / 10 years | yes / opt | yes / opt | yes / opt |

CE, VDE 0126-1-1, VDE-AR-N4105, G59, CEI 0-21, CEI 0-16, VFR 2014, EN50438, IEC 62116, IEC 61727, IEC 61683, IEC 60068

Growatt 30000~50000 TL3-S



3 phase grid-tied inverter for commercial rooftop or ground mounted application. Integrated wire box for comprehensive protections.

- Max. Efficiency 99%
- Dual MPP trackers
- Supports export limitation
- Integrated DC switch
- String fuse and string monitoring
- PID-recovery function
- Natural cooling
- Type II DC and AC SPDs

GROWATT · PRODUCT

| Datasheet | 30000TL3-S | 33000TL3-S | 40000TL3-NS | 50000TL3-S |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Input Data | | | | |
| Max recommended PV Power (for module STC) | 37500W | 41250W | 50000W | 60000W |
| Max DC voltage | 1000V | 1000V | 1000V | 1000V |
| Start Voltage | 250V | 250V | 250V | 250V |
| PV voltage range | 200V - 1000V | 200V - 1000V | 200V - 1000V | 200V - 1000V |
| Nominal voltage | 580V | 580V | 580V | 695V |
| Full load MPP voltage range | 450V - 800V | 450V - 800V | 540V - 800V | 645V - 850V |
| Max. input current | 34A/34A | 38A / 38A | 38A / 38A | 38A / 38A |
| Max. input current per string | 12A | 12A | 12A | 12A |
| Number of MPP trackers / strings per MPP tracker | 2/4 | 2/4 | 2/4 | 2/4 |
| Output (AC) | | | | |
| Rated AC output power | 30kW | 33kW | 40kW | 48kW |
| Max. AC apparent power | 33.3kVA | 36.6kVA | 44.4kVA | 53.3kVA |
| Max. output current | 48.3A | 53A | 64.5A | 64.5A |
| AC nominal voltage | 230V/400V | 230V/400V | 230V/400V | 277V/480V |
| AC grid frequency | 50Hz/60Hz | 50Hz/60Hz | 50Hz/60Hz | 50Hz/60Hz |
| Power factor | 0.8 leading - 0.8 lagging | 0.8 leading - 0.8 lagging | 0.8 leading - 0.8 lagging | 0.8 leading - 0.8 lagging |
| THDI | <3% | <3% | <3% | <3% |
| AC grid connection type | 3W+N+PE | 3W+N+PE | 3W+N+PE | 3W+N+PE/3W+PE |
| Efficiency | | | | |
| Max. efficiency | 98.9% | 98.9% | 99% | 99% |
| Euro - eta | 98.4% | 98.4% | 98.5% | 98.5% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% | 99.5% |
| Protection Devices | | | | |
| DC reverse polarity protection | yes | yes | yes | yes |
| DC Switch | yes | yes | yes | yes |
| DC Surge protection | Type II | Type II | Type II | Type II |
| Ground fault monitoring | yes | yes | yes | yes |
| Output short circuit protection | yes | yes | yes | yes |
| AC Surge protection | Type II | Type II | Type II | Type II |
| String Fuse protection | yes | yes | yes | yes |
| String fault monitoring | yes | yes | yes | yes |
| Anti-PID protection | yes | yes | yes | yes |
| General Data | | | | |
| Dimensions (W / H / D) in mm | 470/754/270 | 470/754/270 | 470/754/270 | 470/754/270 |
| Weight | 48kg | 48kg | 48kg | 48kg |
| Operating temperature range | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C |
| Noise emission (typical) | ≤40 dB(A) | ≤40 dB(A) | ≤40 dB(A) | ≤40 dB(A) |
| Altitude | 4000m | 4000m | 4000m | 4000m |
| Self-consumption night | < 1W | < 1W | < 1W | < 1W |
| Topology | Transformerless | Transformerless | Transformerless | Transformerless |
| Cooling concept | Smart cooling | Smart cooling | Smart cooling | Smart cooling |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 |
| Relative humidity | 0~100% | 0~100% | 0~100% | 0~100% |
| Features | | | | |
| Display | Graphic LCD | Graphic LCD | Graphic LCD | Graphic LCD |
| Interfaces: RS232/R485/WiFi/LAN/GPRS | yes / yes / opt / opt / opt | yes / yes / opt / opt / opt | yes / yes / opt / opt / opt | yes / yes / opt / opt / opt |
| Warranty: 5 years / 10 years | yes / opt | yes / opt | yes / opt | yes / opt |

CE, IEC 62109-1/2, IEC 61727, IEC 62116, VDE 0126-1-1, Greece, VFR 2014, CEI 0-21, CEI 0-16, VDE-AR-N4105, EN50438, G59/3, AS 4777, PEA, IEC 60529, IEC 60068, IEC 61683, DRRG

MAX

50~80KTL3 LV



Suitable for both large scale commercial rooftop and ground mounted solar plants, Growatt Max series grid-tied inverter is with upto 80kW big capacity. First quad-core inverter in the industry, provides it fast processing capability to handle transient grid fault. with optimized design, it also brings 98.67% high weighted China efficiency, 0.3% higher than industry level, along with extraordinary 6 MPPT trackers, ensures high yield of system.

- 6 MPPTs
- Smart diagnosis
- High efficiency up to 99%
- Local WIFI connection
- String monitoring
- AC&DC type II SPD

GROWATT · PRODUCT

| Datasheet | MAX 50KTL3 LV | MAX 60KTL3 LV | MAX 70KTL3 LV | MAX 80KTL3 LV |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| Input Data | | | | |
| Max.DC power | 65000W | 78000W | 91000W | 104000W |
| Max.DC voltage | 1100V | 1100V | 1100V | 1100V |
| Start Voltage | 250V | 250V | 250V | 250V |
| PV voltage range | 200V-1000V | 200V-1000V | 200V-1000V | 200V-1000V |
| Nominal voltage | 585V | 585V | 600V | 685V |
| Full load DC voltage range | 500V-850V | 520V-850V | 600V-850V | 685V-850V |
| Max. input current per MPPT | 25A | 25A | 25A | 25A |
| Number of MPP trackers / strings per MPP tracker | 6/2 | 6/2 | 6/2 | 6/2 |
| Output (AC) | | | | |
| Rated AC output power | 50000W | 60000W | 70000W | 80000W |
| Max. AC apparent power | 55500VA | 66600VA | 77700VA | 88800VA |
| Max. output current | 80.5A | 96.6A | 112.7A | 128.8A |
| AC nominal voltage | 230V/400V | 230V/400V | 230V/400V | 230V/400V |
| AC grid frequency | 50Hz/60Hz | 50Hz/60Hz | 50Hz/60Hz | 50Hz/60Hz |
| Power factor | 0.8leading ...0.8lagging | 0.8leading ...0.8lagging | 0.8leading ...0.8lagging | 0.8leading ...0.8lagging |
| THDI | <3% | <3% | <3% | <3% |
| AC grid connection type | 3W+N+PE | 3W+N+PE | 3W+N+PE | 3W+N+PE |
| Efficiency | | | | |
| Max. efficiency | 98.8% | 98.8% | 99% | 98.8% |
| Euro - eta | 98.3% | 98.3% | 98.4% | 98.3% |
| MPPT efficiency | 99.9% | 99.9% | 99.9% | 99.9% |
| Protection Devices | | | | |
| DC reverse polarity protection | yes | yes | yes | yes |
| DC Switch | yes | yes | yes | yes |
| DC Surge protection | Type II | Type II | Type II | Type II |
| Ground fault monitoring | yes | yes | yes | yes |
| Output short circuit protection | yes | yes | yes | yes |
| AC Surge protection | Type II | Type II | Type II | Type II |
| String fault monitoring | yes | yes | yes | yes |
| Anti-PID protection | opt | opt | opt | opt |
| AFCI protection | opt | opt | opt | opt |
| General Data | | | | |
| Dimensions (W / H / D) in mm | 860/600/300 | 860/600/300 | 860/600/300 | 860/600/300 |
| Weight | 82kg | 82kg | 82kg | 82kg |
| Operating temperature range | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C |
| Noise emission (typical) | ≤55dB(A) | ≤55dB(A) | ≤55dB(A) | ≤55dB(A) |
| Self-Consumption | < 1W* | < 1W* | < 1W* | < 1W* |
| Topology | Transformerless | Transformerless | Transformerless | Transformerless |
| Cooling concept | Smart cooling | Smart cooling | Smart cooling | Smart cooling |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 |
| Altitude | 4000m | 4000m | 4000m | 4000m |
| Relative Humidity | 0-100% | 0-100% | 0-100% | 0-100% |
| Features | | | | |
| Display | LED/WIFI+APP | LED/WIFI+APP | LED/WIFI+APP | LED/WIFI+APP |
| Interfaces:USB/R485/GPRS | yes / yes / opt | yes / yes / opt | yes / yes / opt | yes / yes / opt |
| Warranty:5 years / 10 years | yes / opt | yes / opt | yes / opt | yes / opt |

CQC, CE, VDE 0126-1-1, UTE C 15-712, VDE-AR-N4105, EN50438, DRRG, CEI 0-16, BDEW, IEC 62116, IEC61727, IEC 60068, IEC 61683, AS 4777

NEW

Growatt SPH 3000~6000



Single phase all-in-one hybrid inverter ideal for home systems. stunning IP65 protection level, more durable and flexible for installation; multiple programmable working modes, decide by yourself how to realize self-sufficiency and make the max out of your system; the EPS output can even provide backup supply during grid absence; comprehensive accessories including battery, meter and datalogger optional for different application scenarios.

- Dual MPP trackers
- IP65 & Natural cooling
- Programmable working modes
- Supports Export Control
- Online Smart Service

GROWATT · PRODUCT

| Datasheet | SPH3000 | SPH3600 | SPH4000 | SPH4600 | SPH5000 | SPH6000 |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| DC input data | | | | | | |
| Max. recommended PV power | 6600W | 6600W | 6600W | 8000W | 8000W | 8000W |
| Start voltage | 150V | 150V | 150V | 150V | 150V | 150V |
| Max. PV voltage | 550V | 550V | 550V | 550V | 550V | 550V |
| PV voltage range | 120V-550V | 120V-550V | 120V-550V | 120V-550V | 120V-550V | 120V-550V |
| MPP voltage range/ nominal voltage | 150V-550V /360V | 150V-550V /360V | 150V-550V /360V | 150V-550V /360V | 150V-550V /360V | 150V-550V /360V |
| Max. input current of tracker A/B | 12A/12A | 12A/12A | 12A/12A | 12A/12A | 12A/12A | 12A/12A |
| Number of MPP trackers / strings per MPP tracker | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 |
| AC Output | | | | | | |
| Rated AC output power | 3000W | 3680W | 4000W | 4600W | 4999W | 6000W |
| Max. AC apparent power | 3000VA | 3680VA | 4000VA | 4600VA | 5000VA | 6000VA |
| Max. output current | 16A | 16A | 22A | 22A | 22A | 27A |
| Nominal AC output voltage | 230V | 230V | 230V | 230V | 230V | 230V |
| Nominal grid frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| Power factor at rated power | 1 | 1 | 1 | 1 | 1 | 1 |
| Displacement power factor | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging |
| THDI | <3% | <3% | <3% | <3% | <3% | <3% |
| AC output power(Backup) | | | | | | |
| Max. output power | 3000W | 3000W | 3000W | 3000W | 3000W | 3000W |
| Rated AC output voltage | 230Vac | 230Vac | 230Vac | 230Vac | 230Vac | 230Vac |
| Rated AC output frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| Automatic switchover time | <0.5S | <0.5S | <0.5S | <0.5S | <0.5S | <0.5S |
| Battery data | | | | | | |
| Battery voltage range | 42~59V | 42~59V | 42~59V | 42~59V | 42~59V | 42~59V |
| Max. charging voltage | 58V | 58V | 58V | 58V | 58V | 58V |
| Max charging and discharging current | 66A | 66A | 66A | 66A | 66A | 66A |
| Max charging and discharging power | 3000W | 3000W | 3000W | 3000W | 3000W | 3000W |
| Battery type | lithium /Lead-acid | lithium /Lead-acid | lithium /Lead-acid | lithium /Lead-acid | lithium /Lead-acid | Lithium /Lead-acid |
| Deep of discharging | 80%DOD/50%DOD | 80%DOD/50%DOD | 80%DOD/50%DOD | 80%DOD/50%DOD | 80%DOD/50%DOD | 80%DOD/50%DOD |
| Capacity of battery | 3~12kWh | 3~12kWh | 3~12kWh | 3~12kWh | 3~12kWh | 3~12kWh |
| Efficiency | | | | | | |
| Max. efficiency | 97.5% | 97.5% | 97.5% | 97.6% | 97.6% | 97.7% |
| Euro European efficiency | 97.0% | 97.0% | 97.0% | 97.1% | 97.1% | 97.1% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% |
| Protection devices | | | | | | |
| DC switch | yes | yes | yes | yes | yes | yes |
| DC reverse polarity protection | yes | yes | yes | yes | yes | yes |
| Battery reverse protection | yes | yes | yes | yes | yes | yes |
| Output over current protection | yes | yes | yes | yes | yes | yes |
| Output over voltage protection | yes | yes | yes | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes | yes | yes | yes |
| Grid monitoring | yes | yes | yes | yes | yes | yes |
| Integrated all - pole sensitive leakage | yes | yes | yes | yes | yes | yes |
| General Data | | | | | | |
| Dimensions (W / H / D) in mm | 547/516/170 | 547/516/170 | 547/516/170 | 547/516/170 | 547/516/170 | 547/516/170 |
| Weight | 27KG | 27KG | 27KG | 27KG | 27KG | 27KG |
| Operating temperature range | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C |
| Noise emission (typical) | ≤ 25 dB(A) | ≤ 25 dB(A) | ≤ 25 dB(A) | ≤ 25 dB(A) | ≤ 25 dB(A) | ≤ 25 dB(A) |
| Altitude | 2000m | 2000m | 2000m | 2000m | 2000m | 2000m |
| Self-Consumption | < 3 W | < 3 W | < 3 W | < 3 W | < 3 W | < 3 W |
| Topology | transformerless | transformerless | transformerless | transformerless | transformerless | transformerless |
| Cooling concept | Natural | Natural | Natural | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 | IP65 | IP65 |
| Relative humidity | 100% | 100% | 100% | 100% | 100% | 100% |
| Features | | | | | | |
| DC connection | MC4/H4(opt) | MC4/H4(opt) | MC4/H4(opt) | MC4/H4(opt) | MC4/H4(opt) | MC4/H4(opt) |
| Interface:RS232/USB/RF/Wi-Fi | yes/yes /opt/opt | yes/yes /opt/opt | yes/yes /opt/opt | yes/yes /opt/opt | yes/yes /opt/opt | yes/yes /opt/opt |
| Display | LCD | LCD | LCD | LCD | LCD | LCD |
| Warranty: 5 years / 10 years | yes /opt | yes /opt | yes /opt | yes /opt | yes /opt | yes /opt |

Growatt SPA 1000~3000TL BL



With Growatt SPA series AC-coupled battery inverter, it's quite easy to update any existing solar system to storage system at lower cost, together with Growatt ShineServer Portal, check your system's performance and energy consumption at any time.

- IP65 & Natural cooling
- Supporting Single&Three Phase system
- Workmodes programmable
- Online Smart Service

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| Datasheet | SPA1000TL BL | SPA2000TL BL | SPA3000TL BL |
|---|----------------------------|----------------------------|----------------------------|
| AC connection | | | |
| Rated AC apparent power | 1000VA | 2000VA | 3000VA |
| Max. AC current | 6A | 10A | 16A |
| AC nominal voltage (range) | 230V (180V-270V) | 230V (180V-270V) | 230V (180V-270V) |
| AC grid frequency (range) | 50Hz / 60Hz (±5Hz) | 50Hz / 60Hz (±5Hz) | 50Hz / 60Hz (±5Hz) |
| Power factor, configurable | 1, 0.8leading...0.8lagging | 1, 0.8leading...0.8lagging | 1, 0.8leading...0.8lagging |
| THDi | <3% | <3% | <3% |
| AC connection | Single phase | Single phase | Single phase |
| AC output power (Back-up) | | | |
| Rated AC output apparent power | 1000VA | 2000VA | 3000VA |
| Rated AC output voltage | 230V | 230V | 230V |
| Rated AC output frequency | 50Hz / 60Hz | 50Hz / 60Hz | 50Hz / 60Hz |
| Battery data | | | |
| Battery voltage range | 42~59V | 42~59V | 42~59V |
| Max charging voltage | 58V | 58V | 58V |
| Max charging and discharging current | 24A | 44A | 66A |
| Peak charging and discharging power | 1000W | 2000W | 3000W |
| Battery Type | Lithium /Lead-acid | Lithium /Lead-acid | Lithium /Lead-acid |
| DoD | 80% /50% | 80% /50% | 80% /50% |
| Capacity of battery | 2~12 kWh | 2~12 kWh | 2~12 kWh |
| Efficiency | | | |
| Max. Charge efficiency | 92.5% | 94.0% | 94.5% |
| Max. Discharge efficiency | 92.0% | 93.5% | 94.0% |
| Protection devices | | | |
| Battery reverse protection | yes | yes | yes |
| Output over current protection | yes | yes | yes |
| Output over voltage protection-varistor | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes |
| Grid monitoring | yes | yes | yes |
| Integrated all - pole sensitive leakage current monitoring unit | yes | yes | yes |
| General Data | | | |
| Dimensions (W / H / D) in mm | 428/458/180 | 428/458/180 | 428/458/180 |
| Weight | 17kg | 17kg | 17kg |
| Operating temperature range | - 25°C ... +60°C | - 25°C ... +60°C | - 25°C ... +60°C |
| Noise emission (typical) | ≤ 25 dB(A) | ≤ 25 dB(A) | ≤ 25 dB(A) |
| Altitude | 2000m | 2000m | 2000m |
| Self-Consumption | <4W | <4W | <4W |
| Inverter Topology | transformerless | transformerless | transformerless |
| DC/DC topology | HF transformer | HF transformer | HF transformer |
| Cooling concept | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 |
| Relative humidity | 100% | 100% | 100% |
| Features | | | |
| AC connection | connector | connector | connector |
| Battery connection | Screw | Screw | Screw |
| Display | LCD | LCD | LCD |
| Interfaces: RS485/ USB /CAN/Wi-Fi/RF | yes/yes/yes/opt/opt | yes/yes/yes/opt/opt | yes/yes/yes/opt/opt |
| Warranty:5 years/10 years | yes/opt | yes/opt | yes/opt |

CE, IEC62109, G83, VDE0126-1-1, VDE-AR-N4105, CEI 0-21, IEC62116&IEC61727, EN50438, AS4777, AS/NZS 3100

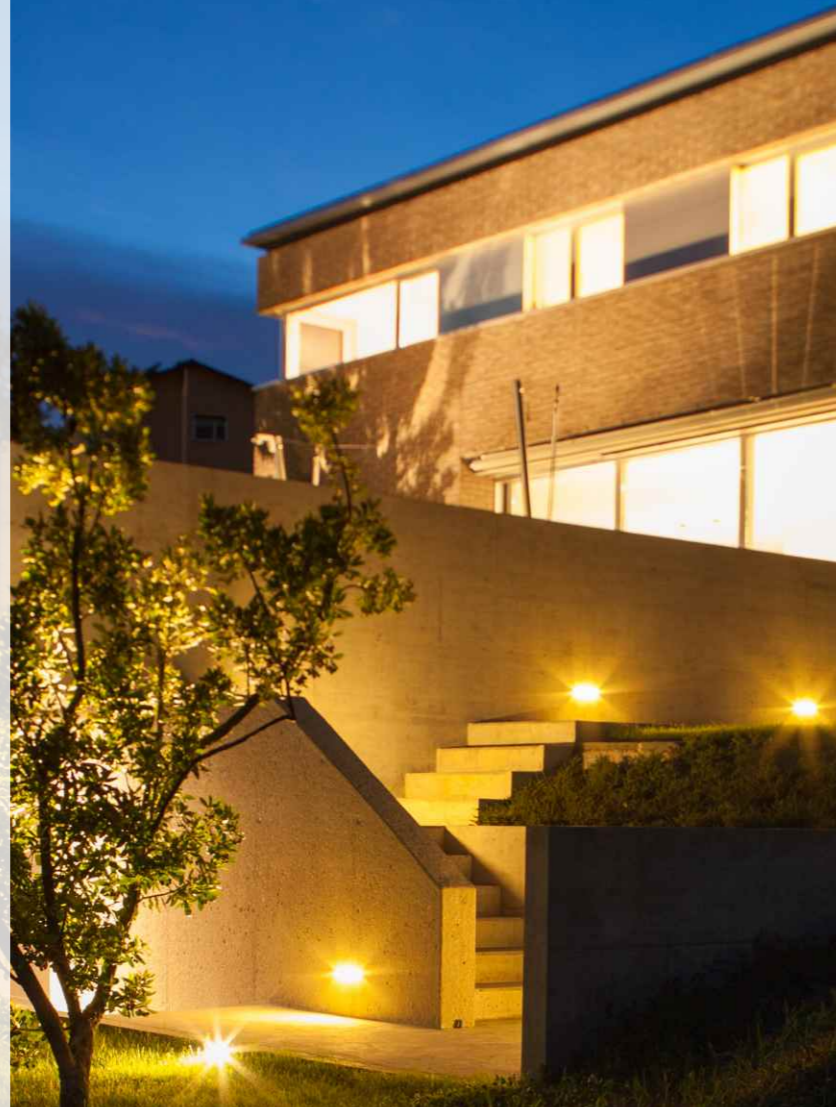
Growatt SPH 4000~10000 TL3 BH



Three phase all-in-one hybrid inverter ideal for home and small commercial systems. its battery ready design can help reduce initial system investment; stunning IP65 protection level, more durable and flexible for installation; multiple programmable working modes, decide by yourself how to realize self-sufficiency and make the max out of your system; the EPS output can even provide backup supply during grid absence; comprehensive accessories including battery, meter and datalogger optional for different application scenarios.

- IP65 & Natural cooling
- 3-Phase and Battery Ready
- Programmable working modes
- Compatible with high-voltage battery
- Online Smart Service

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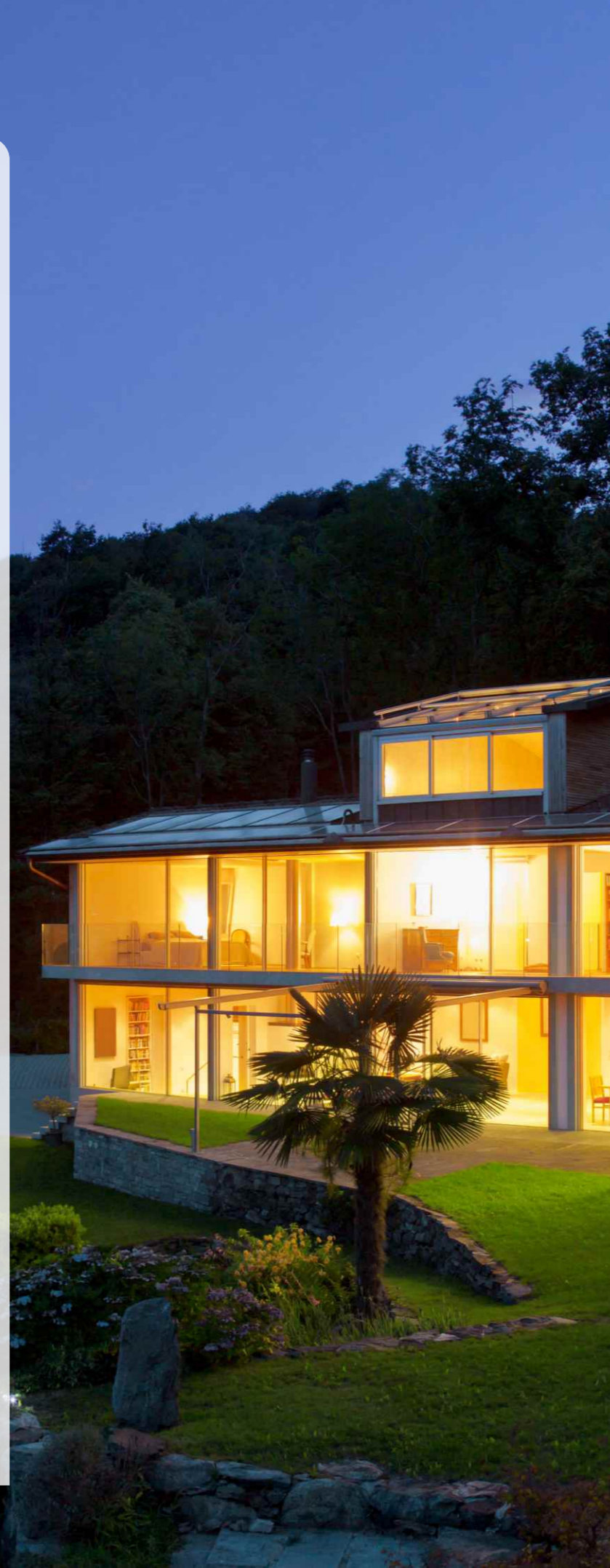
| Datasheet | SPH4000TL3 BH | SPH5000TL3 BH | SPH6000TL3 BH | SPH7000TL3 BH | SPH8000TL3 BH | SPH10000TL3 BH |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| DC input data | | | | | | |
| Max. recommended PV power (for module STC) | 5200W | 6500W | 7800W | 9100W | 10400W | 13000W |
| Max. DC voltage | 1000V | 1000V | 1000V | 1000V | 1000V | 1000V |
| Start Voltage | 160V | 160V | 160V | 160V | 160V | 160V |
| MPP voltage range / normal voltage | 160V-1000V / 600V | 160V-1000V / 600V | 160V-1000V / 600V | 160V-1000V / 600V | 160V-1000V / 600V | 160V-1000V / 60V |
| MPP voltage range at full power | 200-850V | 250-850V | 300-850V | 350-850V | 400-850V | 500-850V |
| Max. input current per string | 12A/12A | 12A/12A | 12A/12A | 12A/12A | 12A/12A | 12A/12A |
| Number of MPP trackers/ strings per MPP tracker | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 |
| AC output data (On-grid) | | | | | | |
| Rated AC output power | 4000W | 5000W | 6000W | 7000W | 8000W | 10000W |
| Max. AC apparent power | 4000VA | 5000VA | 6000VA | 7000VA | 8000VA | 10000VA |
| Max. output current | 6A | 7.5A | 9A | 11A | 12A | 15A |
| AC nominal voltage | 230V/400V | 230V/400V | 230V/400V | 230V/400V | 230V/400V | 230V/400V |
| AC grid frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| Power factor | 0.8leading-0.8lagging | 0.8leading-0.8lagging | 0.8leading-0.8lagging | 0.8leading-0.8lagging | 0.8leading-0.8lagging | 0.8leading-0.8lagging |
| THDI | <3% | <3% | <3% | <3% | <3% | <3% |
| AC grid connection type | 3/N/PE | 3/N/PE | 3/N/PE | 3/N/PE | 3/N/PE | 3/N/PE |
| AC output data (Backup) | | | | | | |
| Max. AC output power | 4000W | 5000W | 6000W | 6000W | 6000W | 6000W |
| Rated AC output voltage | 230V/400V | 230V/400V | 230V/400V | 230V/400V | 230V/400V | 230V/400V |
| Rated AC output frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| THDv | <3% | <3% | <3% | <3% | <3% | <3% |
| Switch time | 0.5S | 0.5S | 0.5S | 0.5S | 0.5S | 0.5S |
| Battery data | | | | | | |
| Battery voltage range | 160~550V | 160~550V | 160~550V | 160~550V | 160~550V | 160~550V |
| Max charging voltage | 550V | 550V | 550V | 550V | 550V | 550V |
| Recommended battery voltage | 200V | 250V | 300V | 350V | 400V | 500V |
| Max charging and discharging current | 20A | 20A | 20A | 20A | 20A | 20A |
| Max charging and discharging power | 4000W | 5000W | 6000W | 7000W | 8000W | 10000W |
| Type of battery | Lithium / Lead-acid | Lithium / Lead-acid | Lithium / Lead-acid | Lithium / Lead-acid | Lithium / Lead-acid | Lithium / Lead-acid |
| Deep of discharging | 80%DOD / 50%DOD | 80%DOD / 50%DOD | 80%DOD / 50%DOD | 80%DOD / 50%DOD | 80%DOD / 50%DOD | 80%DOD / 50%DOD |
| Capacity of battery | 5~50kWh | 5~50kWh | 5~50kWh | 5~50kWh | 5~50kWh | 5~50kWh |
| Efficiency | | | | | | |
| Max. efficiency | 97.6% | 97.8% | 98.0% | 98.2% | 98.2% | 98.2% |
| Euro European efficiency | 97.0% | 97.2% | 97.3% | 97.4% | 97.4% | 97.5% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% |
| Battery charge/discharge efficiency | 94.0% | 94.0% | 96.2% | 96.2% | 97.4% | 97.4% |
| Protection devices | | | | | | |
| DC switch | yes | yes | yes | yes | yes | yes |
| DC reverse polarity protection | yes | yes | yes | yes | yes | yes |
| PV overvoltage protection | Type II | Type II | Type II | Type II | Type II | Type II |
| Battery reverse protection | yes | yes | yes | yes | yes | yes |
| Output over current protection | yes | yes | yes | yes | yes | yes |
| Output AC overvoltage Protection-Varistor | yes | yes | yes | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes | yes | yes | yes |
| Grid monitoring | yes | yes | yes | yes | yes | yes |
| Integrated all-pole sensitive leakage current monitoring unit | yes | yes | yes | yes | yes | yes |
| General data | | | | | | |
| Dimensions (W / H / D) in mm | 423/505/198 | 423/505/198 | 423/505/198 | 423/505/198 | 423/505/198 | 423/505/198 |
| Weight | 27kg | 27kg | 27kg | 27kg | 27kg | 27kg |
| Operating temperature range | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C | -25 °C ... +60 °C |
| Noise emission (typical) | ≤ 35 dB(A) | ≤ 35 dB(A) | ≤ 35 dB(A) | ≤ 35 dB(A) | ≤ 35 dB(A) | ≤ 35 dB(A) |
| Altitude | 3000m | 3000m | 3000m | 3000m | 3000m | 3000m |
| Self-consumption night | <7W | <7W | <7W | <7W | <7W | <7W |
| Topology | Transformerless | Transformerless | Transformerless | Transformerless | Transformerless | Transformerless |
| Cooling concept | Natural | Natural | Natural | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 | IP65 | IP65 |
| Relative humidity | 0...100% | 0...100% | 0...100% | 0...100% | 0...100% | 0...100% |
| Features | | | | | | |
| Display | LCD | LCD | LCD | LCD | LCD | LCD |
| Interfaces:RS232 / Rs485 / CAN / USB / Wi-Fi / RF | yes / yes / yes / yes / opt / opt | yes / yes / yes / yes / opt / opt | yes / yes / yes / yes / opt / opt | yes / yes / yes / yes / opt / opt | yes / yes / yes / yes / opt / opt | yes / yes / yes / yes / opt / opt |
| Warranty: 5 years /10 years | yes / opt | yes / opt | yes / opt | yes / opt | yes / opt | yes / opt |

Growatt SPA 4000~10000 TL3 BH



Growatt three-phase & battery add-on AC-coupled solution for updating existing solar grid-tied system, compatible with high voltage batteries, maximize your solar system self-consumption and reduce your electricity bill.

- IP65 & Natural cooling
- Supports retrofit & New system
- Compatible with 1 & 3 phase system
- Workmodes programmable
- Online Smart Service



GROWATT · PRODUCT

| Datasheet | SPA4000TL3 BH | SPA5000TL3 BH | SPA6000TL3 BH | SPA7000TL3 BH | SPA8000TL3 BH | SPA10000TL3 BH |
|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| AC Connection | | | | | | |
| Rated AC power | 4000W | 5000W | 6000W | 7000W | 8000W | 10000W |
| Max AC apparent power | 4000VA | 5000VA | 6000VA | 7000VA | 8000VA | 10000VA |
| Max. current | 6A | 7.5A | 9A | 11A | 12A | 15A |
| AC nominal voltage | 230V / 400V | 230V / 400V | 230V / 400V | 230V / 400V | 230V / 400V | 230V / 400V |
| AC grid frequency | 50Hz / 60Hz | 50Hz / 60Hz | 50Hz / 60Hz | 50Hz / 60Hz | 50Hz / 60Hz | 50Hz / 60Hz |
| Power factor | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging |
| THDI | <3% | <3% | <3% | <3% | <3% | <3% |
| AC grid connection type | 3/N/PE | 3/N/PE | 3/N/PE | 3/N/PE | 3/N/PE | 3/N/PE |
| AC output data (Backup) | | | | | | |
| Max. AC output power | 4000W | 5000W | 6000W | 6000W | 6000W | 6000W |
| Rated AC output voltage | 230V / 400V | 230V / 400V | 230V / 400V | 230V / 400V | 230V / 400V | 230V / 400V |
| Rated AC output frequency | 50Hz / 60Hz | 50Hz / 60Hz | 50Hz / 60Hz | 50Hz / 60Hz | 50Hz / 60Hz | 50Hz / 60Hz |
| THDv | <3% | <3% | <3% | <3% | <3% | <3% |
| Switch time | 0.5S | 0.5S | 0.5S | 0.5S | 0.5S | 0.5S |
| Battery data | | | | | | |
| Battery voltage range | 160~550V | 160~550V | 160~550V | 160~550V | 160~550V | 160~550V |
| Max charging voltage | 550V | 550V | 550V | 550V | 550V | 550V |
| Recommended battery voltage | 200V | 250V | 300V | 350V | 400V | 500V |
| Max charging and discharging current | 20A | 20A | 20A | 20A | 20A | 20A |
| Max charging and discharging power | 4000W | 5000W | 6000W | 7000W | 8000W | 10000W |
| Type of battery | Lithium / Lead-acid | Lithium / Lead-acid | Lithium / Lead-acid | Lithium / Lead-acid | Lithium / Lead-acid | Lithium / Lead-acid |
| Deep of discharging | 80%DOD / 50%DOD | 80%DOD / 50%DOD | 80%DOD / 50%DOD | 80%DOD / 50%DOD | 80%DOD / 50%DOD | 80%DOD / 50%DOD |
| Capacity of battery | 5~50kWh | 5~50kWh | 5~50kWh | 5~50kWh | 5~50kWh | 5~50kWh |
| Efficiency | | | | | | |
| Battery charge/discharge efficiency | 94.0% | 94.0% | 96.2% | 96.2% | 97.4% | 97.4% |
| Protection devices | | | | | | |
| BAT reverse protection | yes | yes | yes | yes | yes | yes |
| Output over current protection | yes | yes | yes | yes | yes | yes |
| Output AC overvoltage Protection - Varistor | yes | yes | yes | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes | yes | yes | yes |
| Grid monitoring | yes | yes | yes | yes | yes | yes |
| Integrated all-pole sensitive leakage current monitoring unit | yes | yes | yes | yes | yes | yes |
| General data | | | | | | |
| Dimensions (W / H / D) in mm | 423/505/198 | 423/505/198 | 423/505/198 | 423/505/198 | 423/505/198 | 423/505/198 |
| Weight | 27kg | 27kg | 27kg | 27kg | 27kg | 27kg |
| Operating temperature range | - 25°C ...+60°C | - 25°C ...+60°C | - 25°C ...+60°C | - 25°C ...+60°C | - 25°C ...+60°C | - 25°C ...+60°C |
| Noise emission (typical) | ≤ 35 dB(A) | ≤ 35 dB(A) | ≤ 35 dB(A) | ≤ 35 dB(A) | ≤ 35 dB(A) | ≤ 35 dB(A) |
| Altitude | 3000m | 3000m | 3000m | 3000m | 3000m | 3000m |
| Self-Consumption | <7 W | <7 W | <7 W | <7 W | <7 W | <7 W |
| Inverter Topology | transformerless | transformerless | transformerless | transformerless | transformerless | transformerless |
| Cooling concept | Natural | Natural | Natural | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 | IP65 | IP65 |
| Relative humidity | 100% | 100% | 100% | 100% | 100% | 100% |
| Features | | | | | | |
| AC connection | Connector | Connector | Connector | Connector | Connector | Connector |
| Battery connection | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) | H4/MC4(opt) |
| Display | LCD | LCD | LCD | LCD | LCD | LCD |
| Interfaces: RS232 / RS485 / CAN / USB / Wi-Fi / RF | yes /yes /yes / yes / opt / opt | yes /yes /yes / yes / opt / opt | yes /yes /yes / yes / opt / opt | yes /yes /yes / yes / opt / opt | yes /yes /yes / yes / opt / opt | yes /yes /yes / yes / opt / opt |
| Warranty:5 years/10 years | yes/opt | yes/opt | yes/opt | yes/opt | yes/opt | yes/opt |

Growatt SPF 2000~5000TL HVM



Growatt SPF series off grid solar inverter is integrated with a MPPT solar charge controller, a high frequency pure sine wave inverter and a UPS function module in one machine, which is perfect for off grid backup power and self-consumption applications. The transformerless design provides reliable power conversion in compact size. Besides, it's worry-free to start up motor-type loads such as motors, water pumps, and compressors as well as the common home device. Growatt SPF 4KW/5KW can be wired in parallel to increase the output capacity

- Integrated MPPT charge controller
- Configurable grid or solar input priority
- Optional WIFI/ GPRS remote monitoring
- Parallel for scalability

GROWATT · PRODUCT

| Datasheet | SPF 2000TL HVM | SPF 3000TL HVM | SPF 3000TL HVM-48 | SPF 4000TL HVM | SPF 5000TL HVM |
|---------------------------------------|---|---|---|---|---|
| Battery voltage | 24VDC | 24VDC | 48VDC | 48VDC | 48VDC |
| INVERTER OUTPUT | | | | | |
| RATED POWER | 2000VA/ 2000W | 3000VA/ 3000W | 3000VA/ 3000W | 4000VA/ 4000W | 5000VA/ 5000W |
| Parallel Capability | No | No | No | Yes, 6 units | Yes, 6 units |
| AC Voltage Regulation (Battery Mode) | 230VAC ± 5% @ 50/60Hz | 230VAC ± 5% @ 50/60Hz | 230VAC ± 5% @ 50/60Hz | 230VAC ± 5% @ 50/60Hz | 230VAC ± 5% @ 50/60Hz |
| Surge Power | 4000VA | 6000VA | 6000VA | 8000VA | 10000VA |
| Efficiency (Peak) | 93% | 90% | 93% | 93% | 90% |
| Waveform | Pure sine wave | Pure sine wave | Pure sine wave | Pure sine wave | Pure sine wave |
| Transfer Time | 10 ms (For Personal Computers); 20 ms (For Home Appliances) | | | | |
| SOLAR CHARGER | | | | | |
| Maximum PV Array Power | 1000W | 1000W | 2400W | 4500W | 4500W |
| MPPT Range @ Operating Voltage | 30VDC ~ 80VDC | 30VDC ~ 80VDC | 60VDC ~ 115VDC | 60VDC ~ 115VDC | 60VDC ~ 115VDC |
| Maximum PV Array Open Circuit Voltage | 100VDC | 100VDC | 145VDC | 145VDC | 145VDC |
| Maximum Solar Charge Current | 40A | 40A | 40A | 80A | 80A |
| Maximum Efficiency | 97% | 97% | 97% | 97% | 97% |
| Standby Power Consumption | 2 W | 2 W | 2 W | 2 W | 2 W |
| AC CHARGER | | | | | |
| Charge Current | 30A | 30A | 15A | 60A | 60A |
| AC Input Voltage | 230 VAC | 230 VAC | 230 VAC | 230 VAC | 230 VAC |
| Selectable Voltage Range | 170-280 VAC (For Personal Computers) ; 90-280 VAC (For Home Appliances) | | | | |
| Frequency Range | 50Hz/60Hz (Auto sensing) | 50Hz/60Hz (Auto sensing) | 50Hz/60Hz (Auto sensing) | 50Hz/60Hz (Auto sensing) | 50Hz/60Hz (Auto sensing) |
| PHYSICAL | | | | | |
| Dimension (D/W/H) in mm | 120/315/390 | 120/315/390 | 120/315/390 | 130/350/455 | 130/350/455 |
| Net Weight (kgs) | 7 | 8 | 8 | 14.5 | 14.5 |
| OPERATING ENVIRONMENT | | | | | |
| Humidity | 5% to 95% Relative Humidity(Non-condensing) | 5% to 95% Relative Humidity(Non-condensing) | 5% to 95% Relative Humidity(Non-condensing) | 5% to 95% Relative Humidity(Non-condensing) | 5% to 95% Relative Humidity(Non-condensing) |
| Operating Temperature | 0°C - 55°C | 0°C - 55°C | 0°C - 55°C | 0°C - 55°C | 0°C - 55°C |
| Storage Temperature | -15°C - 60°C | -15°C - 60°C | -15°C - 60°C | -15°C - 60°C | -15°C - 60°C |

Growatt HPS 30~150



Hybrid inverter from 30kW to 150kW for small and middle capacity commercial application. all-in-one solution supporting solar, load, DG, grid and battery connection.

- Programmable working modes
- Comprehensive protections
- Touch screen LCD
- Seamless transfer on/off grid
- Compatible with high-voltage battery
- Parallel for scalability

GROWATT · PRODUCT

| Datasheet | HPS 30 | HPS 50 | HPS 100 | HPS 120 | HPS 150 |
|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| AC(Grid-connected) | | | | | |
| Apparent power | 33kVA | 55kVA | 110kVA | 150kVA | 165kVA |
| Rated power | 30kW | 50kW | 100kW | 120kW | 150kW |
| Rated voltage | 400V | 400V | 400V | 400V | 400V |
| Rated current | 43A | 72A | 144A | 173A | 217A |
| Voltage range | 360V - 440V | 360V - 440V | 360V - 440V | 360V - 440V | 360V - 440V |
| Rated frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| Frequency range | 45~55/55~65Hz | 45~55/55~65Hz | 45~55/55~65Hz | 45~55/55~65Hz | 45~55/55~65Hz |
| THDI | <3% | <3% | <3% | <3% | <3% |
| PF | 0.8lagging~0.8leading | 0.8lagging~0.8leading | 0.8lagging~0.8leading | 0.8lagging~0.8leading | 0.8lagging~0.8leading |
| AC connection | 3/N/PE | 3/N/PE | 3/N/PE | 3/N/PE | 3/N/PE |
| Transformer | yes | yes | yes | yes | yes |
| AC(Off-grid) | | | | | |
| Rated power | 33kVA | 55kVA | 110kVA | 132kVA | 165kVA |
| Rated power | 30kW | 48kW | 100kW | 120kW | 150kW |
| Rated voltage | 400V | 400V | 400V | 400V | 400V |
| Rated current | 43A | 72A | 144A | 173A | 217A |
| THDU | ≤2%linear | ≤2%linear | ≤2%linear | ≤2%linear | ≤2%linear |
| Rated frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| Overload capability | 110%-10 mins 120%-1 min | 110%-10 mins 120%-1 min | 110%-10 mins 120%-1 min | 110%-10 mins 120%-1 min | 110%-10 mins 120%-1 min |
| DC(battery and PV) | | | | | |
| Max PV Open-circuit voltage | 1000 VDC | 1000 VDC | 1000 VDC | 1000 VDC | 1000 VDC |
| Recommended PV power | 30kWp | 50kWp | 100kWp | 120kWp | 150kWp |
| PV MPPT voltage range | 480VDC-800VDC | 480VDC-800VDC | 480VDC-800VDC | 480VDC-800VDC | 480VDC-800VDC |
| Nominal battery voltage | 420V | 420V | 420V | 420V | 420V |
| Battery voltage | 352-600V* | 352-600V* | 352-600V* | 352-600V* | 352-600V* |
| Max charging power | 30kW | 50kW | 100kW | 120kW | 150kW |
| Max charging current | 85A | 142A | 285A | 340A | 425A |
| General Data | | | | | |
| Dimension (W/D/H) in mm | 950/750/1860 | 950/750/1860 | 1200/800/1900 | 1200/800/1900 | 1400/800/1900 |
| Weight | 440kg | 620kg | 900kg | 1024kg | 1250kg |
| Environmental temperature | -25 °C ... +55 °C | -25 °C ... +55 °C | -25 °C ... +55 °C | -25 °C ... +55 °C | -25 °C ... +55 °C |
| Relative humidity | 0 ~95% | 0 ~95% | 0 ~95% | 0 ~95% | 0 ~95% |
| Protection degree | 65dB(A)@1m | 65dB(A)@1m | 65dB(A)@1m | 65dB(A)@1m | 65dB(A)@1m |
| Noise emission | IP20 | IP20 | IP20 | IP20 | IP20 |
| Standby consumption | 6000m | 6000m | 6000m | 6000m | 6000m |
| Cooling | <30W | <30W | <30W | <30W | <30W |
| | Forced-air | Forced-air | Forced-air | Forced-air | Forced-air |
| Communication | | | | | |
| Display | Touch screen | Touch screen | Touch screen | Touch screen | Touch screen |
| Communication interface | RS485/CAN | RS485/CAN | RS485/CAN | RS485/CAN | RS485/CAN |

* Battery voltage is determined by the following equation:
 $V_{min} = 352 \times V_n / V_1$, $V_{max} = (V_{mpp} - 100) \times V_n / V_2$, $V_{max} < 600VDC$
 V_1 is battery cell discharge cut-off voltage, V_2 is battery cell boost charge voltage, V_n is battery cell nominal voltage.

Growatt PCS 50~630



Bidirectional battery inverter suitable for off-grid, hybrid or on-grid application. supporting MW level system by paralleling multiple units.

- Programmable working modes
- Comprehensive protections
- Touch screen LCD
- Seamless transfer on/off grid(optional)
- Compatible with high-voltage battery
- Parallel for scalability

GROWATT · PRODUCT

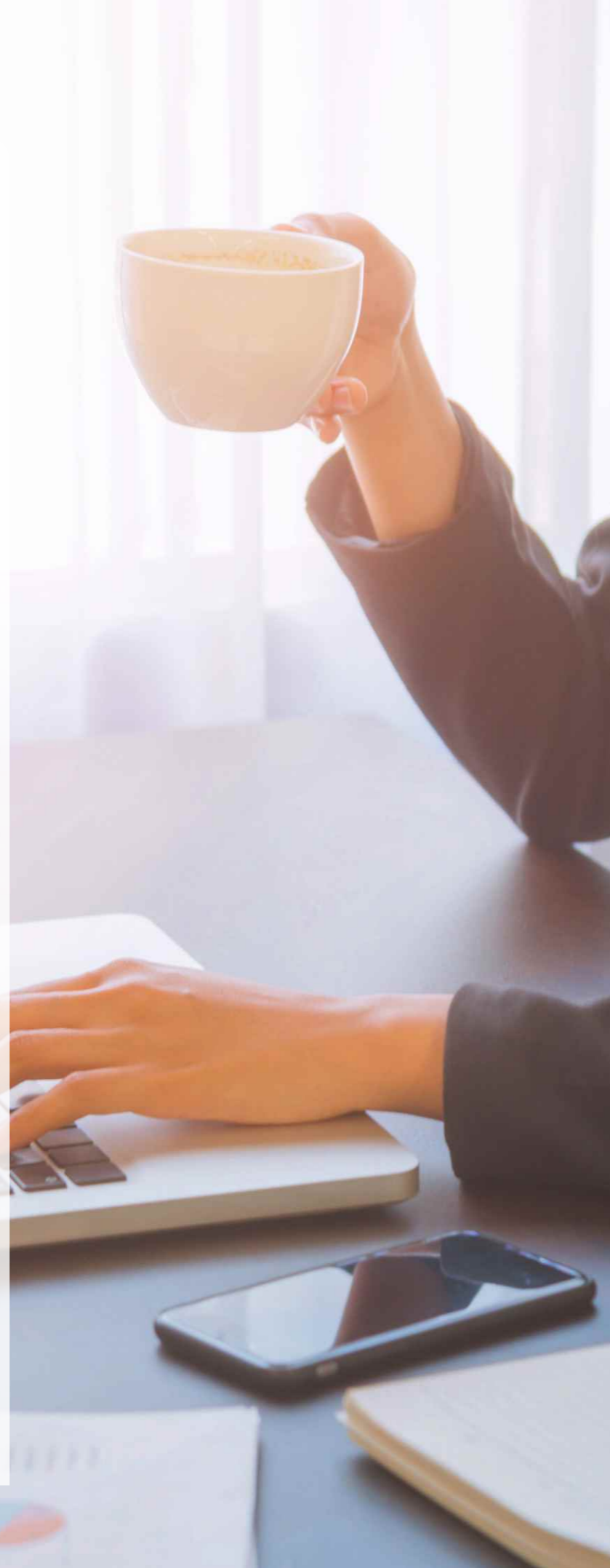
| Datasheet | PCS50 | PCS100 | PCS250 | PCS500 | PCS630 |
|----------------------------|---|---|---|---|---|
| AC(Grid-connected) | | | | | |
| Apparent power | 55kVA | 110kVA | 275kVA | 550kVA | 693kVA |
| Rated power | 50KW | 100KW | 250KW | 500KW | 630KW |
| Rated voltage | 400V | 400V | 400V | 400V | 400V |
| Rated current | 72A | 144A | 361A | 722A | 909A |
| Voltage range | 310V-450V | 310V-450V | 310V-450V | 310V-450V | 310V-450V |
| Rated frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| Frequency range | 45-55/55-65Hz | 45-55/55-65Hz | 45-55/55-65Hz | 45-55/55-65Hz | 45-55/55-65Hz |
| THDI | <3% | <3% | <3% | <3% | <3% |
| PF | 0.8lagging-0.8leading | 0.8lagging-0.8leading | 0.8lagging-0.8leading | 0.8lagging-0.8leading | 0.8lagging-0.8leading |
| AC connection | 3/N/PE | 3/N/PE | 3/N/PE | 3/PE | 3/PE |
| Transformer | Yes | Yes | Yes | NO | NO |
| AC(Off-grid) | | | | | |
| Rated voltage | 400V | 400V | 400V | 400V | 400V |
| THDU | ≤2%linear | ≤2%linear | ≤2%linear | ≤2%linear | ≤2%linear |
| Rated frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| Overload capability | 110%-10 mins 120%-1 min | 110%-10 mins 120%-1 min | 110%-10 mins 120%-1 min | 110%-10 mins 120%-1 min | 110%-10 mins 120%-1 min |
| DC(Battery) | | | | | |
| Rated power | 50kW | 100kW | 250kW | 500kW | 630kW |
| Current regulation | ±1% | ±1% | ±1% | ±1% | ±1% |
| Voltage regulation | ±1% | ±1% | ±1% | ±1% | ±1% |
| Voltage ripple | <3% | <3% | <3% | <3% | <3% |
| Current ripple | <2% | <2% | <2% | <2% | <2% |
| Rated voltage | 600VDC | 600VDC | 600VDC | 650VDC | 650VDC |
| Voltage range | 450V-820V | 450V-820V | 450V-820V | 600V-820V | 600V-820V |
| Rated current | 84A | 167A | 417A | 769A | 969A |
| General Information | | | | | |
| Maximum efficiency | 95.50% | 97.10% | 97.30% | 98.50% | 98.50% |
| Protection degree | IP20 | IP20 | IP20 | IP20 | IP20 |
| Noise emission | 65dB(A)@1m | 65dB(A)@1m | 65dB(A)@1m | 65dB(A)@1m | 65dB(A)@1m |
| Environmental temperature | -25°C to +55°C | -25°C to +55°C | -25°C to +55°C | -25°C to +55°C | -25°C to +55°C |
| Cooling | Forced air | Forced air | Forced air | Forced air | Forced air |
| Relative humidity | 0-95% non-condensing | 0-95% non-condensing | 0-95% non-condensing | 0-95% non-condensing | 0-95% non-condensing |
| Maximum altitude | 5000m (derated above 3000m) | 5000m (derated above 3000m) | 5000m (derated above 3000m) | 5000m (derated above 3000m) | 5000m (derated above 3000m) |
| Dimension(W/D/H) | 600/800/1630mm | 1100/850/1890mm | 1600/850/2080mm | 1200/800/1900 | 1200/800/1900 |
| Weight | 450kg | 820kg | 1465kg | 900Kg | 900Kg |
| Transformer | Yes | Yes | Yes | NO | NO |
| On/Off grid transfer | Manual(default) Automatic(optional) ≤20ms | Manual(default) Automatic(optional) ≤20ms | Manual(default) Automatic(optional) ≤20ms | Manual(default) Automatic(optional) ≤20ms | Manual(default) Automatic(optional) ≤20ms |
| Communication | | | | | |
| Display | Touch screen | Touch screen | Touch screen | Touch screen | Touch screen |
| Communication interface | RS485/CAN | RS485/CAN | RS485/CAN | RS485/CAN | RS485/CAN |

Growatt ShineWiFi-S



Wireless monitoring datalogger with more flexible installation, suitable for applications where cable routing is not convenient and WIFI is available.

- Cable free, easy installation
- 50 meters long range, wide coverage
- Build-in storage, 1 month data
- Online monitoring and maintenance



GROWATT · PRODUCT

| Datasheet | ShineWiFi-S |
|----------------------------------|---|
| Wireless Parameters | |
| Wireless standard | 802.11 b/g/n |
| Frequency range | 2412M ~ 2472M |
| Transmit power | 802.11b: 16±2 dBm (@11Mbps) 802.11g: 14±2 dBm (@54Mbps) 802.11n: 13±2 dBm (@HT20, MCS7) |
| Receiver sensitivity | CCK, 1 Mbps: -90dBm CCK, 11 Mbps: -85dBm 6 Mbps (1/2 BPSK): -88dBm 54 Mbps (3/4 64-QAM): -70dBm HT20, MCS7 (65 Mbps, 72.2 Mbps): -67dBm |
| Hardware Parameters | |
| Data interface | RS232(Modbus RTU protocol) |
| Operating voltage | 9V(+/-15%) |
| Operating current | 100mA |
| Application on Parameters | |
| Supported servers | ShineServer |
| Inverter communication | RS232(Modbus RTU protocol) |
| Server communication | TCP(Modbus TCP protocol) |
| Support network | 2.4G WIFI |
| Max. communication range | 50m |
| Max. power consumption@transmit | 1.2W |
| Configure type | APP configure |
| Data transfer interval | 5 Minutes |
| Default server URL | server.growatt.com |
| General Data | |
| Dimensions(Length/Width/Height) | 135/79/29 mm |
| Weight | 60g |
| Manual language | English, Chinese |
| Operating temperature | -40°C ~ +85°C |
| Warranty | 1 years |

CE

Growatt ShineLink



Wireless monitoring datalogger with more flexible installation, suitable for applications where cable routing is not convenient, configuration free design.

- Cable free, easy installation
- Automatic IP addressing, plug and play
- 200 meters long range, wide coverage
- Multiple inverters supported, up to 8
- Build-in storage, 1 month data
- Online monitoring and maintenance

GROWATT · PRODUCT

| Datasheet | ShineLink |
|-----------------------------------|------------------------|
| Communication Interface | |
| Rf433 | Yes |
| Max. Communication Range | |
| Rf433(in free-field conditions) | Up to 200 m |
| Rf433(two walls blocking) | 20 m |
| Power Supply | |
| Power consumption | <2W standby, <5W peak |
| AC power supply input voltage | 196V~250V |
| AC power supply input frequency | 50/60Hz |
| Current Measurement | |
| Measurement range | Max.90A |
| Accuracy | 3% |
| General Specifications | |
| Dimensions(L/H/W) in mm | 105/85/26 |
| Weight | < 1kg |
| Mounting options | Tabletop/wall-mount |
| Degree of protection | IP30 |
| Status display | LED |
| Ambient temperature range | -25 to 60 °C |
| Humidity | 0-95% (non condensing) |
| Features | |
| Programmable dry contact | Opt |
| Graphical user interface | Android/iOS APP |
| Remote firmware upgrades | Yes |
| Max. number of devices to monitor | 8(RF433) |
| Warranty | 1 years |

CE

Growatt ShineMaster



Cost effective solution for commercial and utility grade solar plants, supports up to 32 inverters connected in RS485 daisy chain, storage port inbuilt supports flexible storage.

- Local webserver for easy configuration
- Supports export control with meters
- Up to 32 inverters connection
- Multi-function and high performance



GROWATT · PRODUCT

| Datasheet | ShineMaster |
|---------------------------------|---|
| Max. Communication Range | |
| Power adapter | Input: 100-240V, 50/60Hz AC Output 5V(+/-15%), 1A DC |
| Rf433(two walls blocking) | 20 m |
| Application Parameters | |
| Max. communication range | 500m |
| Communication with inverters | RS485 (Modbus RTU protocol) |
| Communication with server | TCP(Modbus TCP protocol) |
| Support network | WLAN |
| Data transfer interval | 5 Minutes |
| Default server URL | server.growatt.com |
| Supported servers | ShineServer |
| General Data | |
| Dimensions(W/H/D) in mm | 130/84/25 |
| Weight | 180g |
| Language | English |
| Mounting options | Wall-mounted |
| Ambient temperature range | -30°C ~ +60°C |
| Degree of protection | IP30 |
| Warranty | 1 year |
| CE | |

AUSTRALIA 200KW SOLAR PLANT

▶ 200KW

▶ 58 begarra st, Renmark, South Australia

▶ Growatt 30000TL3-S





NANYANG 100MW HILL PLANT

- 100MW ◀
- Henan, China ◀
- Growatt 40000TL3-S ◀



ANHUI 350KW SOLAR PLANT

- ▶ 350KW
- ▶ Anhui, China
- ▶ Growatt 40000TL3-NS

NETHERLAND POWER 1.5MW SOLAR PLANT

▶ 1.5MW ▶ Netherlands ▶ Growatt 20000UE



THAILAND 134MW SOLAR PLANT

▶ 134MW ▶ Phitsanulok, Thailand ▶ Growatt 16700TL3-HE-TH



DEZHOU 1.29MW SOLAR PLANT

▶ 1.29MW ▶ Dezhou, China ▶ Growatt 40000TL3-NSE



NETHERLAND 600KW SOLAR SYSTEM

- ▶ 600kW
- ▶ Netherlands
- ▶ Growatt 40000TL3-NS



UK HOME STORAGE SYSTEM

- ▶ 5kW
- ▶ United Kingdom
- ▶ Growatt SPH5000



ZHIXI GARDEN SOLAR COMMUNITY

- 4MW ◀
- ZheJiang, China ◀
- Growatt 3000-5000 ◀

ITALY HOME STORAGE SYSTEM

▶ 6kW ▶ Italy ▶ Growatt SPH6000



NETHERLAND HOME SOLAR SYSTEM

▶ 1kW ▶ Netherlands ▶ Growatt 3000-S



▶ 3kW
▶ Netherlands
▶ Growatt 1000-S

