



powering tomorrow
Growatt

GROWATT NEW ENERGY TECHNOLOGY CO.,LTD

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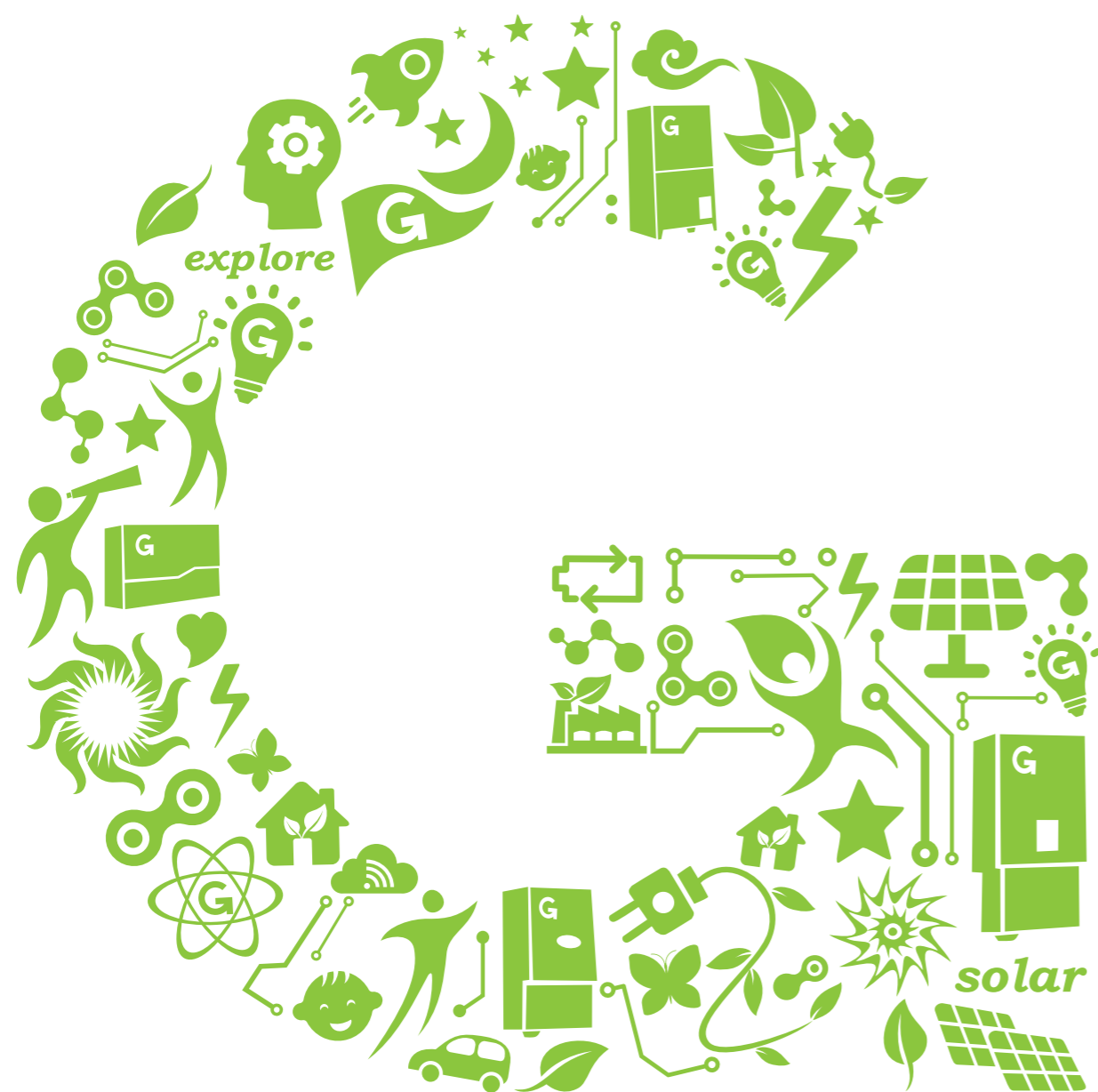
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 P ₀₅	About Growatt	 P ₀₉	 Single phase inverter
 P ₀₇	Certification	 P ₁₉	 Three Phase Inverter
 P ₀₈	With World-class Components Suppliers	 P ₃₁	 Central Inverter
		 P ₄₃	 Storage System
		 P ₅₇	 Monitoring System
		 P ₇₃	 Project List
		 P ₇₉	 Service



A New Milestone for Photovoltaic

As the CEO of Growatt New Energy, I am very honored to recommend our excellent team, our high-efficiency and cost-effective inverters, energy storage products, as well as smart energy management system and other supporting service to all the partners.

Known by all the customers, Growatt is a new energy company based on an R&D team with 10 years experience in PV and power industry. Growatt team has always been committed to more cost-effective new energy product design and maintains sustainable progress. The technology and product performance has been assessed A level by world first-class certification company and EPC company.

Growatt has been engaged in solar photovoltaic inverter and energy storage system since 2010, and until now its products have covered over 100 countries worldwide, quickly growing into the world leading supplier of cost-effective inverters with high efficiency.

Growatt has a full range of inverters from 1kW to 2.52MW, and flexible energy storage solutions, as well as smart energy management system, which are well suited to residential,

commercial and large-scale power plants applications.

In residential solar application, Growatt provides high efficiency and compact inverters and storage products to customers with a simple and intelligent user experience. Meanwhile, it has won a more extensive global market coverage, and stands out from other manufacturers.

In commercial and large-scale power station applications, more stable and effective inverters together with smart energy management system also give customers more cost competitive advantage.

With the efficient products, Growatt offers every customer comprehensive pre-sales and after-sales service, to ensure the optimal products for customized demands. For customers, Growatt is more than just a supplier, but a more reliable partner.

About Growatt

Growatt New Energy Technology Co., Ltd was established on May 2010, a professional new energy company focusing on photovoltaic inverters, energy storage products, as well as smart energy monitoring and management system. Until now, Growatt total shipment is over 670,000, and covers more than 100 countries in Europe, America, Africa, and Asia Pacific, famous as a world leading manufacturer of cost-effective photovoltaic inverters with high efficiency.

Our Products

Growatt offers a full range of PV products with leading-edge technology, including 1-50kW string inverters, 100kW-2.52MW central inverters, storage solutions, smart energy monitoring and managing system, which are completely applicable for residential, industrial and commercial rooftop, large-scale ground plants and storage system.

Our Achievement

At the start of 2012, Sequoia Capital and China Merchants invested in Growatt strategically, which is the basis for the high and stable development of Growatt. With the excellent performance in both domestic and international market, Growatt has been awarded with some honorable titles, like "2012 Fastest Growing Company" "2013 Top 10 Enterprises of Innovation in China" "Most Competitive PV Inverter Company in China" "2014 Top 10 String Inverter Manufactures in China" "2015 Top 10 Most Popular PV Inverter Company in China" "2016 The No.1 Residential Inverter Provider in China" etc. Growatt has been the largest inverter exporter for 7 years, being the most popular Chinese inverter supplier in global market.

Growatt, with big steps, is developing to be the Growatt Group, which will consist of 7 business departments, i.e. 1-50kW string inverters, 100kW-2.52MW central inverters, energy storage products, smart energy monitoring and managing system, electric vehicle charger, solar system EPC, and investment business dept., and determined to be the leader of Chinese user-side smart energy solution provider.

Our R&D and Service Team

With an R&D team more than 100 engineers, 40% of the staff, who has been deeply engaged in the photovoltaic industry for 10 years, thanks to the expertise of its engineers Growatt is currently holding more than 50 patents, Growatt takes the mission to increase the products availability and efficiency, putting continuous innovation to make Growatt products easier for installation and operation, and more cost-effective for solar plant construction.

Other than the R&D team, building an elite service team is Growatt's another goal. In Growatt, service is not only the basic principle, but also blends into the hearts of the staff, and reflects in the daily work of everyone. In order to improve the service system worldwide, Growatt has established branch offices in Frankfurt, Sydney, Los Angeles, Oxford, Chennai, Bangkok, Shenzhen, Hongkong, Beijing and Suzhou.

Certification



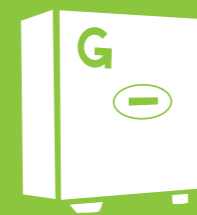
With World-class Components Suppliers

Growatt chooses world-class suppliers to ensure the high quality of its products. With top-class partners Growatt provides inverters with high quality and efficiency to the whole world.

<p>Diode</p>	<p>MCU</p>
<p>Fuse</p>	<p>Current Transducer</p>
<p>Mos IGBT</p>	
<p>IC</p>	
<p>Capacitor</p>	
<p>Relay</p>	



powering tomorrow
Growatt



Single phase inverter

1000-S	2500MTL-S	3600MTL-S	2000HF
1500-S	3000MTL-S	4200MTL-S	3000HF
2000-S		5000MTL-S	5000HF
3000-S		5500MTL-S	

Product Model

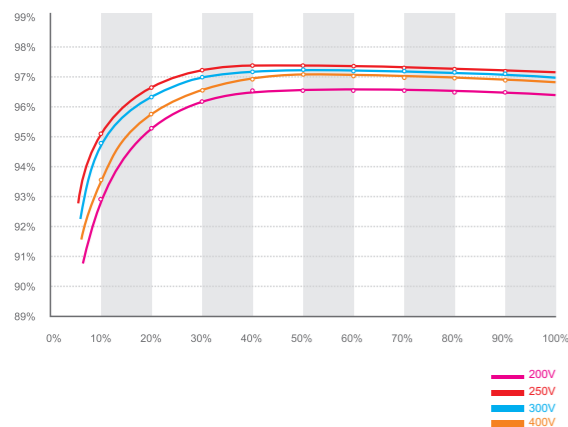
Growatt 1000-S | 1500-S
2000-S | 3000-S



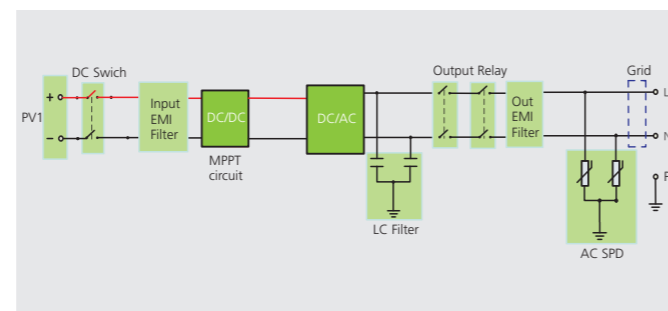
Leading - edge Technology

- Maximum efficiency of 97.6% and wide input voltage range
- Internal DC switch
- Transformerless GT topology
- Compact design
- Ethernet / RF technology / WiFi
- Sound control
- Easy installation
- Comprehensive Growatt warranty program

Growatt 3000-S efficiency



Growatt 1-3k-S topology*



* Note: For Australia area, this series product don't contain DC switch but include a RJ45 port

Datasheet

Input data (DC)

	Growatt 1000-S	Growatt 1500-S	Growatt 2000-S	Growatt 3000-S
Max. recommended PV power (for module STC)	1300W	1900W	2300W	3400W
Max. DC voltage	450V	450V	450V	550V
Start voltage	80V	80V	80V	80V
PV voltage range	70V-450V	70V-450V	70V-450V	70V-550V
MPP work voltage range/ nominal voltage	70V-450V/180V	70V-450V/250V	70V-450V/360V	70V-550V/360V
Full load dc voltage range	110V-400V	175V-400V	200V-400V	250V-500V
Max. input current	10A	10A	11A	13A
Max. input current per string	10A	10A	11A	13A
Number of independent MPP trackers /strings per MPP tracker	1/1	1/1	1/1	1/1

Output (AC)

	Growatt 1000-S	Growatt 1500-S	Growatt 2000-S	Growatt 3000-S
Rated AC output power	1000W	1600W	2000W	3000W
Max. AC power	1000W	1650W	2000W	3000W
Max. output current	4.7A	7.8A	9.5A	14.3A
AC nominal voltage; range	220,230,240V; 180Vac-280Vac	220,230,240V; 180Vac-280Vac	220,230,240V; 180Vac-280Vac	220,230,240V; 180Vac-280Vac
AC grid frequency; range	50,60 Hz;±5 Hz	50,60 Hz;±5 Hz	50,60 Hz;±5 Hz	50,60 Hz;±5 Hz
Power factor	1	1	1	1
THDI	<3%	<3%	<3%	<3%
AC connection	Single phase	Single phase	Single phase	Single phase

Efficiency

	Growatt 1000-S	Growatt 1500-S	Growatt 2000-S	Growatt 3000-S
Max. efficiency	97.4%	97.4%	97.4%	97.6%
Euro-eta	96.5%	97%	97%	97.3%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%

Protection Devices

	Growatt 1000-S	Growatt 1500-S	Growatt 2000-S	Growatt 3000-S
DC reverse polarity protection	yes	yes	yes	yes
DC switch rating for each MPPT	yes	yes	yes	yes
Output over current protection	yes	yes	yes	yes
Output over voltage 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

	Growatt 1000-S	Growatt 1500-S	Growatt 2000-S	Growatt 3000-S
Dimensions (W / H / D) in mm	271*267*142	271*267*142	271*267*142	271*320*142
Weight	6.1kg	6.1kg	6.1kg	8.8kg
Operating temperature range	- 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)
Self-Consumption night	<0.5 W	<0.5 W	<0.5 W	<0.5 W
Topology	Transformerless	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural	Natural
Environmental Protection Rating	IP65	IP65	IP65	IP65
Altitude	2000m without derating	2000m without derating	2000m without derating	2000m without derating
Relative humidity	100%	100%	100%	100%

Features

	Growatt 1000-S	Growatt 1500-S	Growatt 2000-S	Growatt 3000-S
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/ 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
Warranty: 5 years / 10 years	yes /opt	yes /opt	yes /opt	yes /opt

Certificates and Approvals

CE, VDE 0126-1-1, IEC 62109, G83, AS4777, AS/NZS 3100, CEI0-21, VDE-AR-N4105, EN50438, CQC, VFR 2014, IEC 61683, IEC 60068, IEC 61727, IEC 62116

Product Model

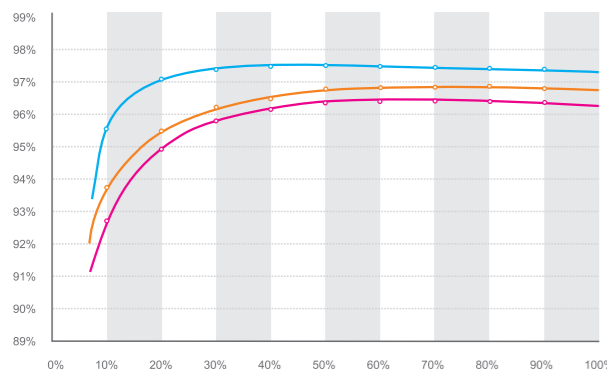
Growatt 2500MTL-S | 3000MTL-S



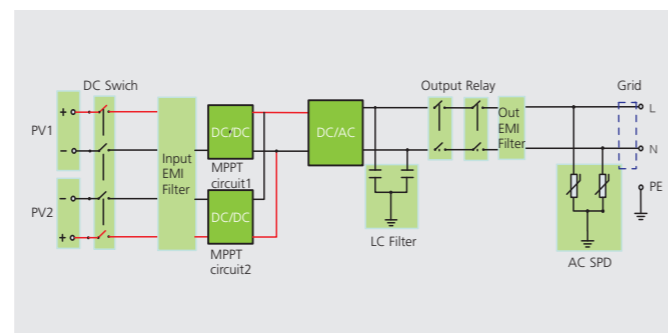
Leading - edge Technology

- Double MPPT Tracker, MPPT tracking accuracy more than 99.5%
- Max. Efficiency 97.6%, European Efficiency 97%
- Integrated DC switch for added safety protection
- Transformerless design and high power density, offer lighter and more convenient installation
- Power factor continuously adjustable
- Flexible communication connection, support RF, WiFi, Ethernet
- Comply with European, Asia-Pacific safety regulations

Growatt 3000MTL-S efficiency



Growatt 2.5-3k-MTL-S topology*



* Note: For Australia area, this series product don't contain DC switch but include a RJ45 port

— 250V
— 380V
— 500V

Datasheet

Growatt 2500MTL-S

Growatt 3000MTL-S

Input data (DC)

Max. recommended PV power (for module STC)	2900W	3500W
Max. DC voltage	500V	500V
Start voltage	100V	100V
PV voltage range	70V-500V	70V-500V
MPP work voltage range/ nominal voltage	80V-500V /360V	80V-500V /360V
Full load dc voltage range	130V-450V	160V-450V
Max. input current of tracker A/ tracker B	10A/10A	10A/10A
Max. input current per string of tracker A/tracker B	10A/10A	10A/10A
Number of independent MPP trackers / strings per MPP tracker	2/1	2/1

Output (AC)

Rated AC output power	2500W	3000W
Max. AC apparent power	2500VA	3000VA
Max. output current	11.3A	13.6A
AC nominal voltage; range	220V/230V /240V; 180Vac-280Vac	220V/230V/240V;180Vac - 280Vac
AC grid frequency; range	50Hz,60Hz / ± 5Hz	50Hz,60Hz / ± 5Hz
Power factor at rated power	1	1
Displacement power factor, configurable	0.8leading...0.95lagging	0.8leading...0.95lagging
THDI	<3%	<3%
AC connection	Single phase	Single phase

Efficiency

Max. efficiency	97.6%	97.6%
Euro-eta	97%	97%
MPPT efficiency	99.5%	99.5%

Protection Devices

DC reverse polarity protection	yes	yes
DC switch rating for each MPPT	yes	yes
Output over current protection	yes	yes
Output over voltage protection-varistor	yes	yes
Ground fault monitoring	yes	yes
Grid monitoring	yes	yes
Integrated all - pole sensitive leakage current monitoring unit	yes	yes

General Data

Dimensions (W / H / D) in mm	355*419*138	355*419*138
Weight	14kg	14kg
Operating temperature range	- 25 °C ... +60 °C	- 25 °C ... +60 °C
Noise emission (typical)	≤25 dB(A)	≤25 dB(A)
Self-Consumption night	< 0.5 W	< 0.5 W
Topology	Transformerless	Transformerless
Cooling concept	Natural	Natural
Environmental Protection Rating	IP65	IP65
Altitude	2000m without derating	2000m without derating
Relative humidity	100%	100%

Features

DC connection	H4/MC4(opt)	H4/MC4(opt)
AC connection	Connector	Connector
Display	LCD	LCD
Interfaces: RS232 / RF / Wi-Fi / LAN/GPRS	yes / opt / opt / opt /opt	yes / opt / opt / opt /opt
Warranty: 5 years / 10 years	yes / opt	yes / opt

Certificates and Approvals

CE, IEC62109, G83, VDE0126-1-1, G59, AS4777, AS/NZS 3100, CEI0-21, VDE-AR-N4105, EN50438, CQC

Product Model

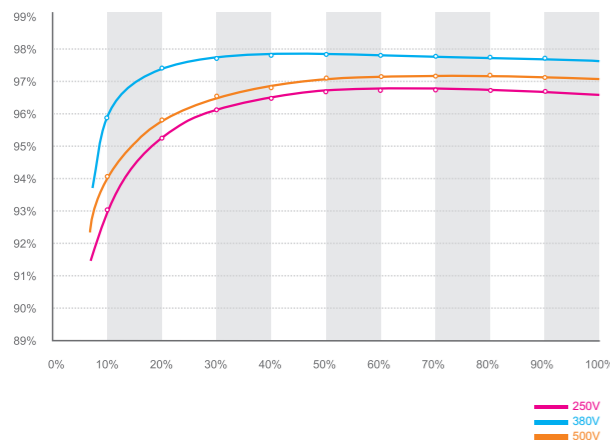
Growatt 3600MTL-S | 4200MTL-S
5000MTL-S | 5500MTL-S



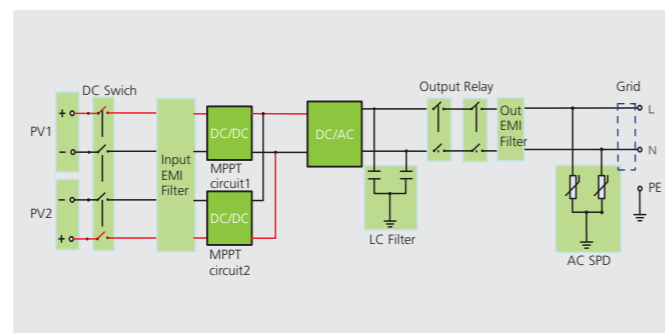
Leading - edge Technology

- Double MPPT Tracker, MPPT tracking accuracy more than 99.5%
- Max. Efficiency 97.9%, European Efficiency 97.4%
- Integrated DC switch for added safety protection
- Transformerless design and high power density, offer lighter and more convenient installation
- Power factor continuously adjustable
- Flexible communication connection, support RF, WiFi, Ethernet
- Comply with European, Asia-Pacific safety regulations

Growatt 5000MTL-S efficiency



Growatt 3.6-5.5kMTL-S topology*



* Note: For Australia area, this series product don't contain DC switch but include a RJ45 port

Datasheet

Input data (DC)

	Growatt 3600MTL-S	Growatt 4200MTL-S	Growatt 5000MTL-S	Growatt 5500MTL-S
Max. recommended PV power (for module STC)	4100W	4800W	5300W	5750W
Max. DC voltage	550V	550V	550V	550V
Start voltage	100V	100V	100V	100V
PV voltage range	70V-550V	70V-550V	70V-550V	70V-550V
MPP work voltage range/nominal voltage	80V-550V /360V	80V-550V /360V	80V-550V /360V	80V-550V /360V
Full load dc voltage range	190V-500V	150V-500V	160V-500V	175V-500V
Max. input current of tracker A/tracker B	10A/10A	15A/15A	15A/15A	15A/15A
Max. input current per string of tracker A/tracker B	10A/10A	15A/15A	15A/15A	15A/15A
Number of independent MPPT trackers / strings per MPPT tracker	2/1	2/1	2/1	2/1

Output (AC)

	Growatt 3600MTL-S	Growatt 4200MTL-S	Growatt 5000MTL-S	Growatt 5500MTL-S
Rated AC output power	3600W	4200W	4600W	5000W
Max. AC apparent power	3600VA	4200VA	4600VA	5000VA
Max. output current	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
AC grid frequency; range	50Hz,60Hz / ±5Hz	50Hz,60Hz / ±5Hz	50Hz,60Hz / ±5Hz	50Hz,60Hz / ±5Hz
Power factor at rated power	1	1	1	1
Displacement power factor, configurable	0.8leading... 0.95lagging	0.8leading... 0.95lagging	0.8leading... 0.95lagging	0.8leading... 0.95lagging
THDI	<3%	<3%	<3%	<3%
AC connection	Single phase	Single phase	Single phase	Single phase

Efficiency

	Growatt 3600MTL-S	Growatt 4200MTL-S	Growatt 5000MTL-S	Growatt 5500MTL-S
Max. efficiency	97.9%	97.9%	97.9%	97.9%
Euro-eta	97.4%	97.4%	97.4%	97.4%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%

Protection Devices

	Growatt 3600MTL-S	Growatt 4200MTL-S	Growatt 5000MTL-S	Growatt 5500MTL-S
DC reverse polarity protection	yes	yes	yes	yes
DC switch rating for each MPPT	yes	yes	yes	yes
Output over current protection	yes	yes	yes	yes
Output over voltage 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

	Growatt 3600MTL-S	Growatt 4200MTL-S	Growatt 5000MTL-S	Growatt 5500MTL-S
Dimensions (W / H / D) in mm	355*419*138	355*419*138	355*419*158	355*419*158
Weight	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
Noise emission (typical)	≤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
Topology	Transformerless	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural	Natural
Environmental Protection Rating	IP65	IP65	IP65	IP65
Altitude	2000m without derating	2000m without derating	2000m without derating	2000m without derating
Relative humidity	100%	100%	100%	100%

Features

	Growatt 3600MTL-S	Growatt 4200MTL-S	Growatt 5000MTL-S	Growatt 5500MTL-S
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 / 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
Warranty: 5 years / 10 years	yes / opt	yes / opt	yes / opt	yes / opt

Certificates and Approvals

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

Product Model

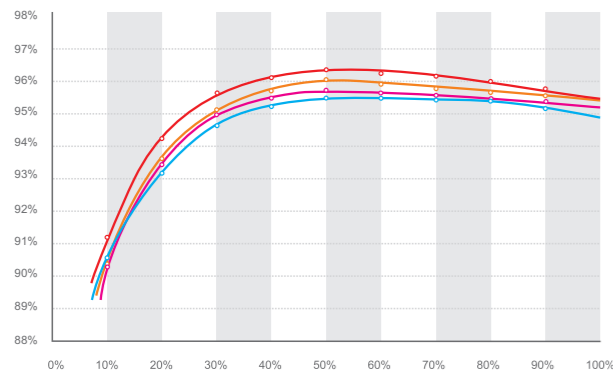
Growatt 2000HF | 3000HF | 5000HF



Leading - edge Technology

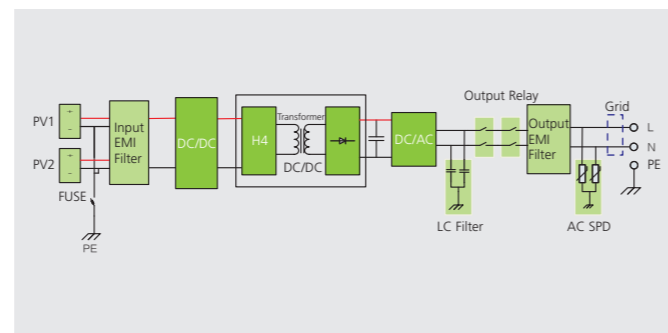
- Maximum efficiency of 96.5% and wide input voltage range
- DC switch optional
- High frequency
- Compact design
- MTL - String
- Ethernet / RF technology / Wi-Fi
- Sound control
- Fanless cooling concept
- Easy installation
- High reliability

Growatt 3000 HF efficiency



250V
350V
450V
500V

Growatt 2-3k HF topology



Datasheet	Growatt 2000HF	Growatt 3000HF	Growatt 5000HF
Input data (DC)			
Max. recommended PV power (for module STC)	2300W	3500W	5500W
Max. DC voltage	600V	600V	600V
Start voltage	150V	150V	150V
PV voltage range	100V - 600V	100V - 600V	100V - 600V
MPP work voltage range /nominal voltage	120V - 600V/380V	120V - 600V/380V	120V - 600V/410V
Full load dc voltage range	195V - 480V	250V - 480V	230V - 480V
Max. input current	12A	15A	24A
Max. input current/per string	12A	15A	24A
Number of independent MPP trackers/strings per MPP tracker	1 / 2	1 / 2	2 / 1
Output (AC)			
Rated AC output power	2000W	3000W	5000W
Max. AC power	2000W	3000W	5000W
Max. output current	10A	14.3A	23A
AC nominal voltage; range	220V,230V,240V; 180Vac-280Vac	220V,230V,240V; 180Vac-280Vac	220V,230V,240V; 180Vac-280Vac
AC grid frequency; range	50,60Hz;±5Hz	50,60Hz;±5Hz	50,60Hz;±5Hz
Power factor	>0.99	>0.99	>0.99
THDI	<3%	<3%	<3%
AC connection	Single phase	Single phase	Single phase
Efficiency			
Max. efficiency	96.3%	96.5%	96.5%
Euro-eta	95.5%	95.5%	95.5%
MPPT efficiency	99.5%	99.5%	99.5%
Protection Devices			
DC reverse polarity protection	yes	yes	yes
DC switch for each MPPT	opt	opt	opt
Output over current protection	yes	yes	yes
Output 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	386/362/154 mm	386/362/154 mm	362/474/195 mm
Weight	13.6kg	13.6kg	20kg
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)
Self-Consumption (night)	< 0.5 W	< 0.5 W	< 0.5 W
Topology	Transformer	Transformer	Transformer
Cooling concept	Natural	Natural	Natural
Environmental Protection Rating	IP65	IP65	IP65
Altitude	2000m without derating	2000m without derating	2000m without derating
Relative Humidity	100%	100%	100%
Features			
DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
AC connection	Connector	Connector	Connector
Display	LCD	LCD	LCD
Interfaces: RS232 / RF / WiFi / LAN / GPRS	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
Certificates and Approvals			
CE, VDE 0126-1-1, IEC 62109, G83, SAA, CQC, N4105			

CE, VDE 0126-1-1, IEC 62109, G83, SAA, CQC, N4105



Three Phase Inverter

4000UE	8000TL3-S	18000UE	30000TL3-S
5000UE	9000TL3-S	20000UE	33000TL3-S
6000UE	10000TL3-S		40000TL3-NS
	11000TL3-S		50000TL3-S



Product Model

Growatt 4000UE | 5000UE 6000UE



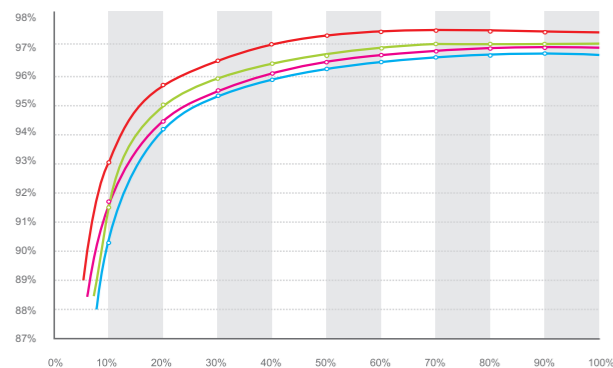
Europe/Australia ENS

- Simple national setting of line supply monitoring(ENS)
- Easy country configuration
- Multi - language display
- Currently available for Germany, Austria, France, UK Switzerland, Italy and Spain etc.

Leading - edge Technology

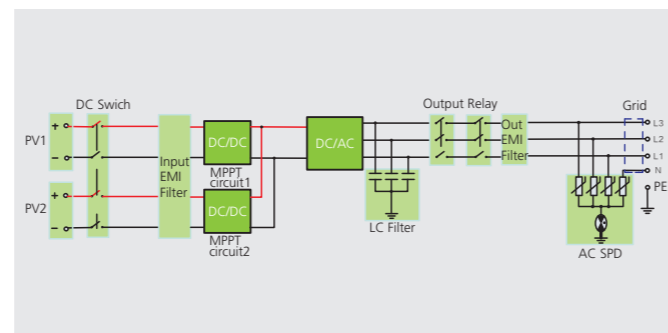
- DC input voltage up to 800V
- Maximum efficiency of 97.9%
- Internal DC switch
- Transformerless
- Compact design
- Multi MPP controller
- Ethernet / RF technology / WiFi
- Sound control
- Easy installation
- Comprehensive Growatt warranty program

Growatt 6000 UE efficiency



500V
550V
600V
650V

Growatt 4-6k UE topology



Datasheet	Growatt 4000UE	Growatt 5000UE	Growatt 6000UE
Input Data			
Max. DC power	4200W	5200W	6300W
Max DC voltage	800V	800V	800V
Start Voltage	150V	150V	150V
PV voltage range	140V - 800V	140V - 800V	140V - 800V
MPP voltage range / nominal voltage	200V - 800V / 580V	200V - 800V / 580V	200V - 800V / 580V
Full load DC voltage range	250V - 750V	300V - 750V	350V - 750V
Number of MPP trackers/strings per MPP tracker	2/1	2/1	2/1
Max. input current/per string	9A / 9A	9A / 9A	10A / 10A
Output (AC)			
Rated AC output power	4000W	5000W	6000W
Max. AC apparent power	4000VA	5000VA	6000VA
Max. output current	6.4A	7.9A	9.3A
AC nominal voltage; range	230V/400V; 184 - 275V	230V/400V; 184 - 275V	230V/400V; 184 - 275V
AC grid frequency; range	50-60Hz; 44-55Hz/54-65Hz	50-60Hz; 44-55Hz/54-65Hz	50-60Hz; 44-55Hz/54-65Hz
Power factor at rated power	1	1	1
Displacement power factor configurable	0.9 leading -0.9lagging	0.9 leading -0.9lagging	0.9 leading -0.9lagging
THDi (@Full load &THDv<1%)	<3%	<3%	<3%
AC connection	3W+N+PE, 3W+PE(Opt)	3W+N+PE, 3W+PE(Opt)	3W+N+PE, 3W+PE(Opt)
Efficiency			
Max. efficiency	97.8%	97.8%	97.9%
Euro - eta	96.7%	96.7%	96.8%
MPPT efficiency	99.5%	99.5%	99.5%
Protection Devices			
DC reverse polarity protection	yes	yes	yes
DC switch for each MPPT	yes	yes	yes
Output AC overcurrent 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)	433/566/195 mm	433/566/195 mm	433/566/195mm
Weight	30kg	31.1kg	31.1kg
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	2000m without derating	2000m without derating	2000m without derating
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/R485/ LAN/RF/WiFi/GPRS	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
Certificates and Approvals			
CE, VDE0126-1-1, VDE-AR-N4105, IEC 62109-1/-2, C-tick, AS/NZS 3100, AS4777, EN61000-6-2 , EN61000-6-3, IEC61727, IEC62116, G83, EN50438			

Product Model

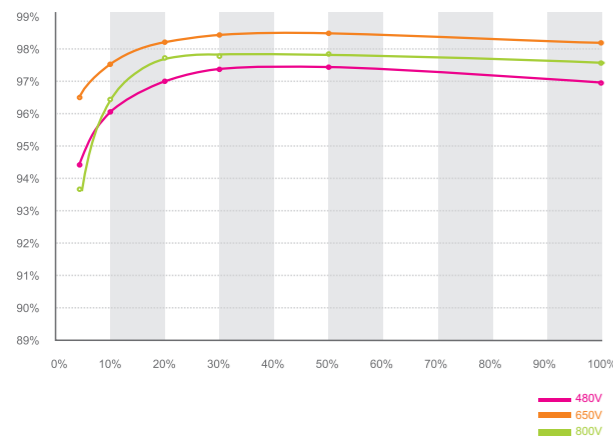
**Growatt 8000TL3-S | 9000TL3-S
10000TL3-S | 11000TL3-S**



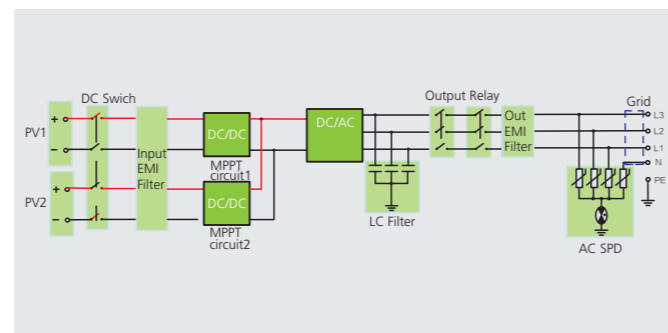
Leading - edge Technology

- Max. DC Voltage up to 1000V
- Max efficiency 98.4%
- Compact design
- Multi MPP controller
- Natural cooling, fanless design
- Max. DC/AC ratio up to 1.2
- High power density, offer lighter and easy installation
- Comprehensive Growatt warranty program

Growatt 11000TL3-S efficiency



Growatt 8-11kTL3-S topology



Datasheet

	Growatt 8000TL3-S	Growatt 9000TL3-S	Growatt 10000TL3-S	Growatt 11000TL3-S
Input data				
Max. recommended PV power (for module STC)	9600W	10800W	12000W	13200W
Max. DC voltage	1000V	1000V	1000V	1000V
Start Voltage	250V	250V	250V	250V
PV voltage range	160V-1000V	160V-1000V	160V-1000V	160V-1000V
Nominal voltage	600V	600V	600V	600V
MPP voltage range at Full Power	360V-850V	400V-850V	450V-850V	450V-850V
Max. input current	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
Output (AC)				
Rated AC output power	8kW	9kW	10kW	11kW
Max AC apparent power	8.8kVA	9.9kVA	11kVA	12.1kVA
Max. output current	13.3A	15A	16.7A	18.3A
AC nominal voltage; range	230V/400V 184~275V	230V/400V 184~275V	230V/400V 184~275V	230V/400V 184~275V
AC grid frequency	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
THDi @Full load&Thdv<1%	<3%	<3%	<3%	<3%
AC grid connection type	3W+N+PE	3W+N+PE	3W+N+PE	3W+N+PE
Efficiency				
Max. efficiency	98.3%	98.4%	98.4%	98.4%
Euro - eta	97.8%	98%	98%	98%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%
Protection Devices				
DC reverse polarity protection	yes	yes	yes	yes
DC switch for each MPPT	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)	480/448/200 mm	480/448/200 mm	480/448/200 mm	480/448/200 mm
Weight	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
Noise emission (typical)	≤35 dB(A)	≤35 dB(A)	≤35 dB(A)	≤35 dB(A)
Altitude	3000m without derating	3000m without derating	3000m without derating	3000m without derating
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	Screw terminal	Screw terminal	Screw terminal	Screw terminal
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

Certificates and Approvals

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

Product Model

Growatt 18000UE | 20000UE



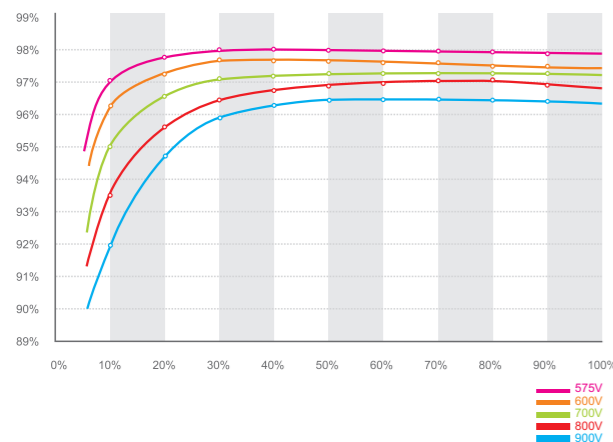
Europe/Australia ENS

- Simple national setting of line supply monitoring(ENS)
- Easy country configuration
- Multi - language display
- Currently available for Germany, Austria, France, UK Switzerland, Italy and Spain etc.

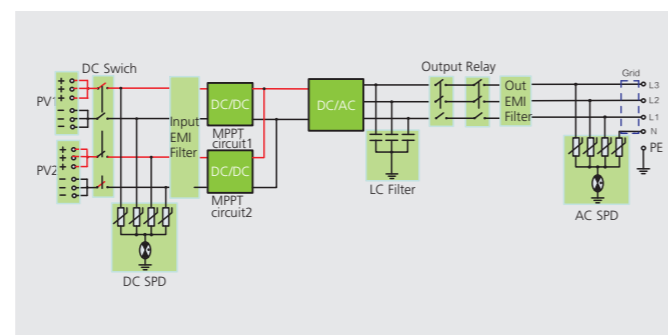
Leading - edge Technology

- DC input voltage up to 1000V
- Maximum efficiency of 98.2%
- Internal DC switch
- Transformerless
- Compact design
- Multi MPP controller
- MTL - String
- Ethernet / RF technology / WiFi
- Sound control
- Easy installation
- Comprehensive Growatt warranty program

Growatt 20000 UE efficiency



Growatt 18-20k UE topology



Datasheet

Input Data

	Growatt 18000UE	Growatt 20000UE
Max. DC power	19800W	22000W
Max DC voltage	1000V	1000V
Start Voltage	350V	350V
PV voltage range	180V - 1000V	180V - 1000V
MPP voltage range / nominal voltage	300V - 1000V / 600V	300V - 1000V / 600V
Full load DC voltage range	400V - 800V	400V - 800V
Number of MPP trackers/ strings per MPP tracker	2/3	2/3
Max. input current	23A / 23A	26A / 26A
Max. input current per string	20A	20A

Output (AC)

Rated AC output power	18kW	20kW
Max. AC apparent power	18kVA	20kVA
Max. output current	28.6A	32A
AC nominal voltage; range	230V/400V 184 - 275V	230V/400V 184 - 275V
AC grid frequency; range	50-60Hz; 44-55Hz/54-65Hz	50-60Hz; 44-55Hz/54-65Hz
Power factor at rated power	1	1
Displacement power factor configurable	0 overexcited to 0 underexcited	0 overexcited to 0 underexcited
THDI	<3%	<3%
AC connection	3/N/PE, 3W+PE(Opt)	3/N/PE, 3W+PE(Opt)

Efficiency

Max. efficiency	98%	98%
Euro - eta	97.5%	97.5%
MPPT efficiency	99.5%	99.5%

Protection Devices

DC reverse polarity protection	yes	yes
DC switch for each MPPT	yes	yes
Output AC overcurrent protection	yes	yes
Output AC overvoltage protection - varistor	yes	yes
Ground fault monitoring	yes	yes
Grid monitoring	yes	yes
Integrated all-pole sensitive leakage current monitoring unit	yes	yes

General Data

Dimensions (W / H / D)	570/740/235 mm	570/740/235 mm
Weight	60kg	60kg
Operating temperature range	-25 °C ... +60 °C (with derating above45°C)	-25 °C ... +60 °C (with derating above45°C)
Noise emission (typical)	≤ 55 dB(A)	≤ 55 dB(A)
Self-Consumption (night)	<0.5W	<0.5W
Standby consumption	12W	12W
Topology	Transformerless	Transformerless
Cooling concept	Smart cooling	Smart cooling
Environmental Protection Rating	IP65	IP65
Altitude	2000m without derating	2000m without derating
Relative Humidity	0~100%	0~100%
DC connection	H4/MC4(opt)	H4/MC4(opt)
AC connection	Screw terminal	Screw terminal
Display	LCD	LCD
Interfaces: RS232/R485/ LAN/RF/WiFi/GPRS	yes / yes / opt / opt / opt / opt	yes / yes / opt / opt / opt / opt
Warranty:5 years / 10 years	yes / opt	yes / opt

Certificates and Approvals

VDE-AR-N4105, CEI 0-21, CEI 0-16, CE, VDE 0126-1-1, IEC 62109, RD 1663, G59, C-tick, AS4777, AS/NZS 3100, IEC61727, IEC62116, BDEW(For 18-20k), IEC 60068,

IEC 61683, NRS 097-2-1, PEA, G59, EN50438, PEA, MEA

Product Model

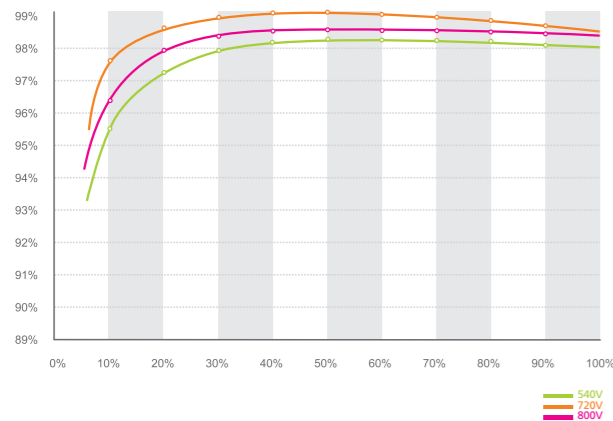
Growatt 30000TL3-S | 33000TL3-S 40000TL3-NS | 50000TL3-S



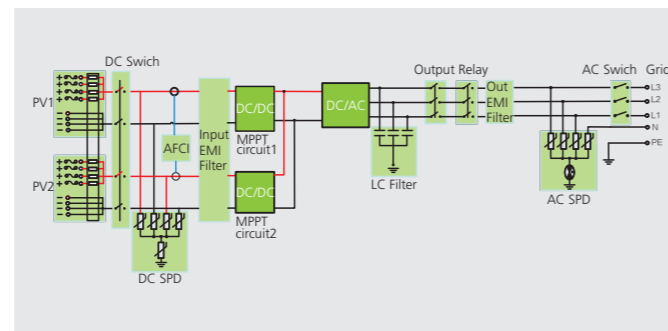
Leading - edge Technology

- Maximum efficiency of 99%
- Multi MPP controller and MTL string
- 8 strings intelligent monitoring and Fuse protection
- Leading IPM (Intelligent Power Module), more reliable
- Compact design and easy installation
- Comprehensive warranty program
- Internal DC switch and Transformerless
- Type II surge arresters for both DC and AC
- Anti-PID for PV module
- Optional AFCI function
- Supporting AC power supply

Growatt 50000TL3-S efficiency



Growatt 30-50k TL3-(N)S topology



Datasheet

Growatt 30000TL3-S

Growatt 33000TL3-S

Growatt 40000TL3-NS

Growatt 50000TL3-S

Input Data

Parameter	Growatt 30000TL3-S	Growatt 33000TL3-S	Growatt 40000TL3-NS	Growatt 50000TL3-S
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)

Parameter	Growatt 30000TL3-S	Growatt 33000TL3-S	Growatt 40000TL3-NS	Growatt 50000TL3-S
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	50/60Hz	50/60Hz	50/60Hz	50/60Hz
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

Parameter	Growatt 30000TL3-S	Growatt 33000TL3-S	Growatt 40000TL3-NS	Growatt 50000TL3-S
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

Parameter	Growatt 30000TL3-S	Growatt 33000TL3-S	Growatt 40000TL3-NS	Growatt 50000TL3-S
DC reverse polarity protection	yes	yes	yes	yes
DC Switch for each MPPT	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
AFCI protection	opt	opt	opt	opt

General Data

Parameter	Growatt 30000TL3-S	Growatt 33000TL3-S	Growatt 40000TL3-NS	Growatt 50000TL3-S
Dimensions (W / H / D)	470/754/270 mm	470/754/270 mm	470/754/270 mm	470/754/270 mm
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)	≤50 dB(A)	≤50 dB(A)	≤50 dB(A)	≤50 dB(A)
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
Altitude	4000m	4000m	4000m	4000m
Relative Humidity	0~100%	0~100%	0~100%	0~100%

Features

Parameter	Growatt 30000TL3-S	Growatt 33000TL3-S	Growatt 40000TL3-NS	Growatt 50000TL3-S
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

Certificates and Approvals

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,



Central Inverter

- | | | | |
|-------|-----------|-----------|------------------|
| CP100 | CP500TL-S | CP850TL-S | CP1700 Station-S |
| CP250 | CP630TL-S | | CP2000 Station-S |
| | | | CP2520 Station-S |

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Growatt

inverter

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Product Model

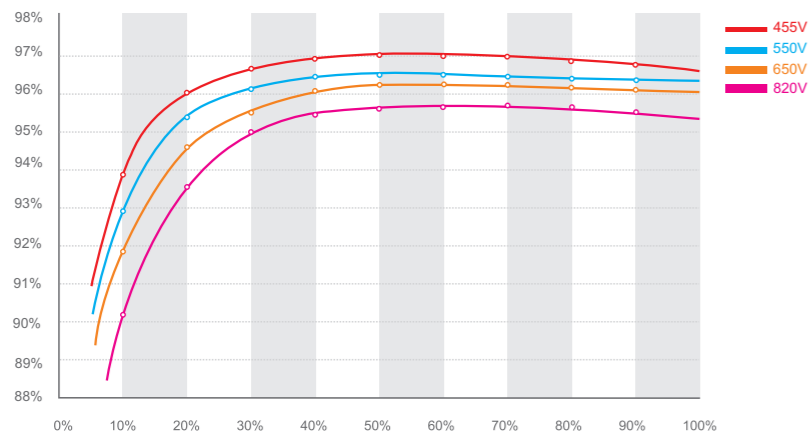
Growatt CP100



Leading - edge Technology

- Max efficiency over 97.1%, deliver more energy
- Powerful grid management functions(including LVRT)
- Active power continuous adjustment (0-100%)
- Reactive power adjustable, PF range 0.9lagging-0.9leading
- Friendly touch monitoring interface, easy installation maintenance procedure
- Certificate and approvals included maintenance
- Design for max.ROI: Newest generation IGBTs and advanced MPPT Algorithms
- Auxiliary electrical heating (optional)
- Comprehensive protection for overvoltage, islanding, short-circuit, overload, overheat etc.

Growatt CP100 efficiency



Datasheet

Growatt CP100

Input Data

Max. DC power	115kW
Max. DC voltage	1000V
DC Voltage Range	450V - 1000V
MPPT Voltage Range	450V - 850V
Rated Input Voltage	600V
Start Voltage/Power	500V/1000W
Maximum Input Current	250A
Number of Independent MPPT	1
Number of DC Inputs	2

Output Data(AC)

Rated AC Power	100KVA
Rated AC Voltage	400V
AC Voltage Range	310V - 450V
Rated Frequency	50Hz/60Hz
Frequency Range	45-55Hz/55-65Hz
Rated current	144A
Maximum Output Current	160A
Power Factor (cosφ)	0.9lagging - 0.9leading
THDi	<3%(@Pac,r)

Efficiency

Maximum Efficiency	97.1%
Euro Efficiency	96.5%
MPPT Efficiency	99.9%

Protection

DC Disconnection Device	DC circuit breaker, fuse (opt)
AC Disconnection Device	AC circuit breaker
DC Overvoltage Protection	Surge arrester type II
AC Overvoltage Protection	Surge arrester type II
Grid monitoring/Management	yes/yes
Ground monitoring	yes
Over Temperature Protection	yes
Insulation monitoring	yes

General Data

Dimension (W/H/D)	1100/1890/850 mm
Weight	820kg
Operating Temperature Range	-25 °C ... +55 °C
Relative Humidity	0 ~95%
Degree of Protection	IP20
Noise Emission	65dB(A)@1m
Maximum Operating Altitude	6000m(Derating over 3000m)
Standby consumption	<30W
Cooling	Air Forced
Topology	Low Frequency Transformer
Display	Touch screen LCD
Communication Interface	RS485/Ethernet

Certificates and Approvals

CE, TUV, CGC, LVRT, ZVRT

Product Model

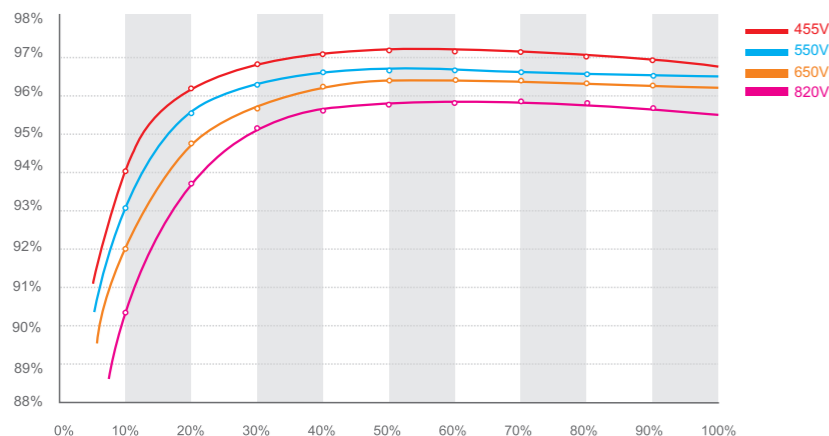
Growatt CP250



Leading - edge Technology

- Max efficiency over 97.3%, deliver more energy
- Powerful grid management functions(including LVRT)
- Active power continuous adjustment (0-100%)
- Reactive power adjustable, PF range 0.9lagging-0.9leading
- Friendly touch monitoring interface, easy installation maintenance procedure
- Certificate and approvals included
- Design for max.ROI: Newest generation IGBTs and advanced MPPT Algorithms
- Auxiliary electrical heating (optional)
- Comprehensive protection for overvoltage, islanding short-circuit, overload, overheat etc.circuit, overload, overheat etc.

Growatt CP250 efficiency



Datasheet

Growatt CP250

Input Data

Max. DC power	285kW
Max. DC voltage	1000V
DC Voltage Range	450V - 1000V
MPPT Voltage Range	450V - 850V
Rated Input Voltage	600V
Start Voltage/Power	500V/2500W
Maximum Input Current	635A
Number of Independent MPPT	1
Number of DC Inputs	4

Output Data(AC)

Rated AC Power	250kVA
Rated AC Voltage	400V
AC Voltage Range	310V - 450V
Rated Frequency	50Hz/60Hz
Frequency Range	45-55Hz/55-65Hz
Rated current	361A
Maximum Output Current	400A
Power Factor (cosφ)	0.9lagging – 0.9leading
Total Harmonic Distortion	<3%(@Pac,r)

Efficiency

Maximum Efficiency	97.3%
Euro Efficiency	96.7%
MPPT Efficiency	99.9%

Protection

DC Disconnection Device	DC circuit breaker, fuse (opt)
AC Disconnection Device	AC circuit breaker
DC Overvoltage Protection	Surge arrester type II
AC Overvoltage Protection	Surge arrester type II
Grid monitoring/Management	yes/yes
Ground monitoring	yes
Over Temperature Protection	yes
Insulation monitoring	yes

General Data

Dimension (W/H/D)	1600/2080/850 mm
Weight	1465kg
Operating Temperature Range	-25 °C ... +55 °C
Relative Humidity	0~95%
Degree of Protection	IP20
Noise Emission	65dB(A)@1m
Maximum Operating Altitude	6000m(Derating over 3000m)
Standby consumption	<30W
Cooling	Air Forced
Topology	Low Frequency Transformer
Display	Touch screen LCD
Communication Interface	RS485/Ethernet

Certificates and Approvals

CE, TUV, CGC, LVRT, ZVRT

Product Model

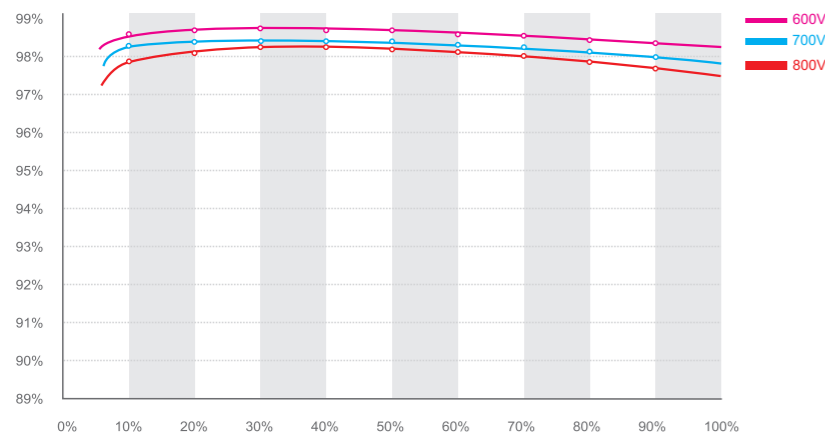
Growatt CP500TL-S | CP630TL-S



Leading - edge Technology

- High conversion efficiency of 98.7% deliver more energy
- Powerful grid management functions(including LVRT)
- Active power continuous adjustment (0-100%)
- Reactive power adjustable ,PF range 0.9lagging-0.9leading
- Transformer-less inverter for direct connection to MV transfrmer
- Friendly touch monitoring interface, easy installation maintenance procedure
- Design for max.ROI: Newest generation IGBTs and advanced MPPT Algorithms
- Auxiliary electrical heating (optional)
- Comprehensive protection for overvoltage is landing,short-circuit,overload,overheat etc.

Growatt CP500TL-S efficiency



Datasheet

Growatt CP500TL-S

Growatt CP630TL-S

Input Data

Max. DC power	575kW	725kW
Max. DC voltage	1000V	1000V
DC Voltage Range	600V - 1000V	600V - 1000V
MPPT Voltage Range	600V - 900V	600V - 900V
Rated Input Voltage	700V	700V
Start Voltage/Power	620V/5000W	620V/6300W
Maximum Input Current	910A	1150A
Number of Independent MPPT	1	1
Number of DC Inputs	8	10

Output Data(AC)

Rated AC Power	500KVA	630KVA
Max AC Power(<50°C ambient)	550KVA	690KVA
Rated AC Voltage	400V	400V
AC Voltage Range	320V - 460V	320V - 460V
Rated Frequency	50Hz/60Hz	50Hz/60Hz
Frequency Range	45-55Hz/55-65Hz	45-55Hz/55-65Hz
Rated current	722A	910A
Maximum Output Current	790A	1000A
Power Factor (cosφ)	0.9lagging – 0.9leading	0.9lagging – 0.9leading
Total Harmonic Distortion	<3%(@Pac,r)	<3%(@Pac,r)

Efficiency

Maximum Efficiency	98.7%	98.7%
Euro Efficiency	98.5%	98.5%
MPPT Efficiency	99.9%	99.9%

Protection

DC Disconnection Device	DC circuit breaker for each input	DC circuit breaker for each input
AC Disconnection Device	AC circuit breaker	AC circuit breaker
DC Overvoltage Protection	Surge arrester type II	Surge arrester type II
AC Overvoltage Protection	Surge arrester type II	Surge arrester type II
Grid monitoring/Management	yes/yes	yes/yes
Ground monitoring	yes	yes
Over Temperature Protection	yes	yes
Insulation monitoring	yes	yes

General Data

Dimension (W/H/D)	1205/1905/800 mm	1205/1905/800 mm
Weight	900kg	900kg
Operating Temperature Range	-25 °C ...+70°C (>55°C derating)	-25 °C ...+70°C (>55°C derating)
Relative Humidity	0~95%	0~95%
Degree of Protection	IP20	IP20
Noise Emission	65dB(A)@1m	65dB(A)@1m
Maximum Operating Altitude	6000m(Derating over 3000m)	6000m(Derating over 3000m)
Standby consumption	<100W	<100W
Cooling	Air Forced	Air Forced
Topology	Transformerless	Transformerless
Display	Touch screen LCD	Touch screen LCD
Communication Interface	RS485/ Ethernet	RS485/ Ethernet

Certificates and Approvals

PEA,CE,CGC, LVRT, IEC 60068, IEC 61683, IEC 61727, IEC 62116

Product Model

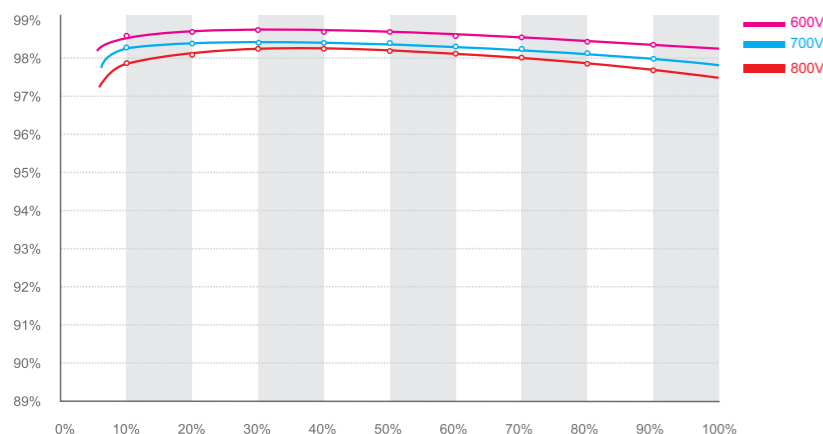
Growatt CP850TL-S



Leading - edge Technology

- High conversion efficiency of 98.7% deliver more energy
- Powerful grid management functions(including LVRT)
- Active power continuous adjustment (0-100%)
- Reactive power adjustable ,PF range 0.9lagging-0.9leading
- Transformer-less inverter for direct connection to MV transfrmer
- Friendly touch monitoring interface, easy installation maintenance procedure
- Design for max.ROI: Newest generation IGBTs and advanced MPPT Algorithms
- Auxiliary electrical heating (optional)
- Comprehensive protection for overvoltage is landing,short-circuit,overload,overheat etc.

Growatt CP850TL-S efficiency



Datasheet

Growatt CP850TL-S

Input Data

Max. DC power	975kW
Max. DC voltage	1000V
DC Voltage Range	600V - 1000V
MPPT Voltage Range	600V - 900V
Rated Input Voltage	700V
Start Voltage/Power	620V/8500W
Maximum Input Current	1550A
Number of Independent MPPT	1
Number of DC Inputs	12

Output Data(AC)

Rated AC Power	850kVA
Max AC Power(<50℃ ambient)	935kVA
Rated AC Voltage	400V
AC Voltage Range	320V - 460V
Rated Frequency	50Hz/60Hz
Frequency Range	45-55Hz/55-65Hz
Rated current	1227A
Maximum Output Current	1300A
Power Factor (cosφ)	0.9lagging – 0.9leading
Total Harmonic Distortion	<3%(@Pac,r)

Efficiency

Maximum Efficiency	98.7%
Euro Efficiency	98.5%
MPPT Efficiency	99.9%

Protection

DC Disconnection Device	DC circuit breaker for each input
AC Disconnection Device	AC circuit breaker
DC Overvoltage Protection	Surge arrester type II
AC Overvoltage Protection	Surge arrester type II
Grid monitoring/Management	yes/yes
Ground monitoring	yes
Over Temperature Protection	yes
Insulation monitoring	yes

General Data

Dimension (W/H/D)	1600/1900/850 mm
Weight	965kg
Operating Temperature Range	-25 °C ~+70 °C (>55°C derating)
Relative Humidity	0~95%
Degree of Protection	IP20
Noise Emission	65dB(A)@1m
Maximum Operating Altitude	6000m(Derating over 3000m)
Standby consumption	<100W
Cooling	Air Forced
Topology	Transformerless
Display	Touch screen LCD
Communication Interface	RS485/Ethernet

Certificates and Approvals

PEA,CE,CGC, LVRT, IEC 60068, IEC 61683, IEC 61727, IEC 62116

Product Model

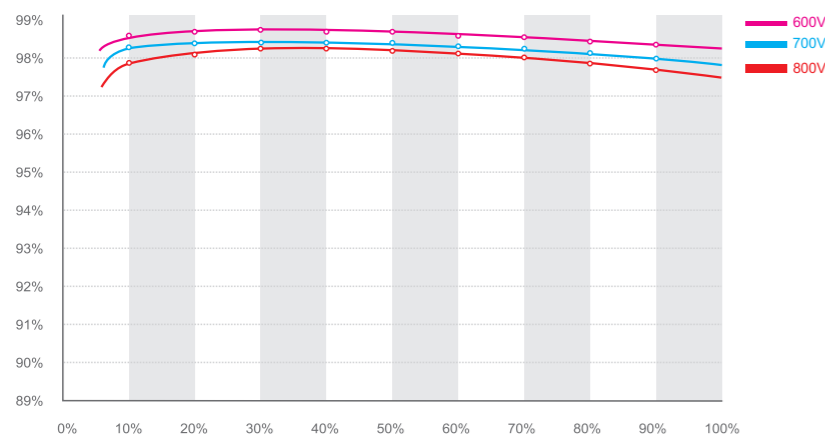
Growatt CP 1700 Station-S
CP 2000 Station-S
CP 2520 Station-S



Leading - edge Technology

- High conversion efficiency of 98.7% deliver more energy
- Powerful grid management functions(including LVRT)
- Active power continuous adjustment (0-100%)
- Reactive power adjustable ,PF range 0.9lagging-0.9leading
- Transformer-less inverter for direct connection to MV transfromer
- Friendly touch monitoring interface, easy installation maintenance procedure
- Design for max.ROI: Newest generation IGBTs and advanced MPPT Algorithms
- Auxiliary electrical heating (optional)
- Comprehensive protection for overvoltage is landing,short-circuit,overload,overheat etc.

Growatt CP2520Station-S efficiency



Datasheet

Growatt CP1700Station-S

Growatt CP2000Station-S

Growatt CP2520Station-S

Input Data

Max. DC power	1950kW	2300kW	2900kW
Max. DC voltage	1000V	1000V	1000V
DC Voltage Range	600V - 1000V	600V - 1000V	600V - 1000V
MPPT Voltage Range	600V - 900V	600V - 900V	600V - 900V
Rated Input Voltage	700V	700V	700V
Start Voltage/Power	620V/17000W	620V/20000W	620V/25200W
Maximum Input Current	3100A	3640A	4600A
Number of Independent MPPT	2	4	4
Number of DC Inputs	24	32	40

Output Data(AC)

Rated AC Power	1700kVA	2000kVA	2520kVA
Max AC Power(<45℃ ambient)	1870kVA	2200kVA	2760kVA
Rated AC Voltage	400V	400V	400V
AC Voltage Range	320V - 460V	320V - 460V	320V - 460V
Rated Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
Frequency Range	45-55Hz/55-65Hz	45-55Hz/55-65Hz	45-55Hz/55-65Hz
Rated current	2454A	2888A	3640A
Maximum Output Current	2600A	3160A	4000A
Power Factor (cosφ)	0.9lagging – 0.9leading	0.9lagging – 0.9leading	0.9lagging – 0.9leading
Total Harmonic Distortion	<3%(@Pac,r)	<3%(@Pac,r)	<3%(@Pac,r)

Efficiency

Maximum Efficiency	98.7%	98.7%	98.7%
Euro Efficiency	98.5%	98.5%	98.5%
MPPT Efficiency	99.9%	99.9%	99.9%

Protection

DC Disconnection Device	DC circuit breaker for each input	DC circuit breaker for each input	DC circuit breaker for each input
AC Disconnection Device	AC circuit breaker	AC circuit breaker	AC circuit breaker
DC Overvoltage Protection	Surge arrester type II	Surge arrester type II	Surge arrester type II
AC Overvoltage Protection	Surge arrester type II	Surge arrester type II	Surge arrester type II
Grid monitoring/Management	yes/yes	yes/yes	yes/yes
Ground monitoring	yes	yes	yes
Over Temperature Protection	yes	yes	yes
Insulation monitoring	yes	yes	yes

General Data

Dimension (W/H/D)	2991/2591/2438 mm	2991/2591/2438 mm	2991/2591/2438 mm
Weight	3500kg	5000kg	5000kg
Operating Temperature Range	-25...+65℃(>50℃ derating)	-25...+65℃(>50℃ derating)	-25...+65℃(>50℃ derating)
Relative Humidity	0~95%	0~95%	0~95%
Degree of Protection	IP54	IP54	IP54
Noise Emission	65dB(A)@1m	65dB(A)@1m	65dB(A)@1m
Maximum Operating Altitude	6000m(Derating over 3000m)	6000m(Derating over 3000m)	6000m(Derating over 3000m)
Cooling	Air Forced	Air Forced	Air Forced
Topology	Transformerless	Transformerless	Transformerless
Display	Touch screen LCD	Touch screen LCD	Touch screen LCD
Communication Interface	RS485/ Ethernet	RS485/ Ethernet	RS485/ Ethernet
Inverter Configuration	2*CP850TL-S	4*CP500TL-S	4*CP630TL-S

Certificates and Approvals

PEA,CE,CGC, LVRT, IEC 60068, IEC 61683, IEC 61727, IEC 62116



Storage System

SP1000-S	SPF3000	GBLI 2701	PCS50	HPS30
SP2000-S	SPF5000	GBLI 5001	PCS100	HPS50
SP3000-S			PCS250	HPS120
			PCS500	HPS150

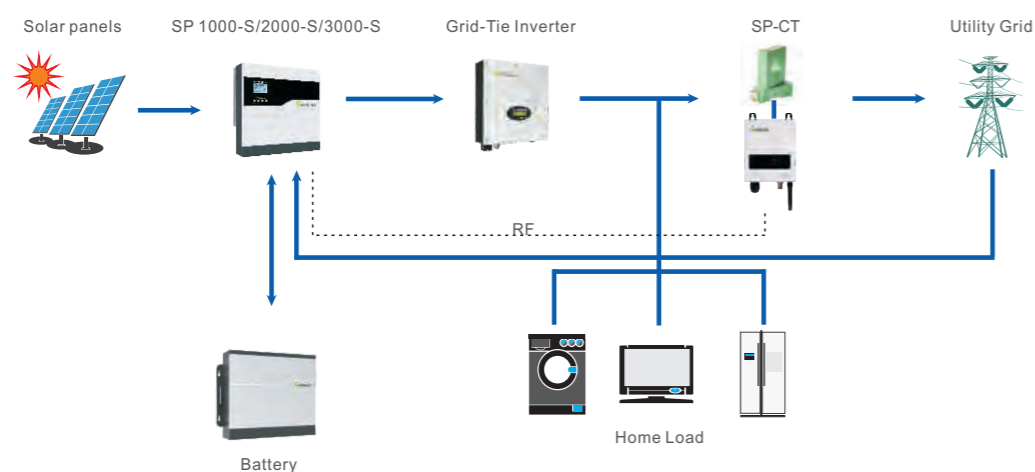
Residential Storage Product

Growatt SP1000-S | SP2000-S SP3000-S



Leading - edge Technology

- Internal DC switch, RS232 / RF / WiFi
- Wireless current sensor is optional
- Easy add to existing photovoltaic system
- Compatible with almost all brands string inverter
- Free to choose battery type and capacity
- Store energy from solar energy and off peak electricity
- Programmable discharging time period for battery
- Local graphic LCD @ four buttons, convenient to operate



Datasheet

Growatt SP1000-S

Growatt SP2000-S

Growatt SP3000-S

PV input data

Recommended input power range	2000W~4000W	3000W~6000W	3000W~6000W
Max. input current	30A *1	30A *1	30A *1
Input DC voltage range	100V~580VDC	100V~580VDC	100V~580VDC

Technical data

Max. charging and discharging power	1000W	2000W	3000W
Full load DC voltage range while charging	100V~450VDC	200V~450VDC	200V~450VDC
Output voltage range while discharging	150V~400VDC	150V~450VDC	150V~500VDC
Rated output voltage while discharging	300V	380V	380V
Max. input current (from PV) while charging	6.7A	6.7A	10A
Max. output current (to inverter) while discharging	6.7A	6.7A	10A
Rated output current (to inverter) while discharging	1.7A/per string	2.6A/per string	4A/per string
Number of MPP trackers/strings per MPP tracker	2/1	2/1	2/1
Output strings(to inverter)	2	2	2
Max AC charging power	500W	1000W	1000W

Battery data

Battery type	Lead-acid / Lithium	Lead-acid / Lithium	Lead-acid / Lithium
Recommend battery capacity range	50-100AH	90-200AH	150-500AH
Daily total electricity supply	2~5 kWh	2~9 kWh	3~12 kWh
Deep of discharge	50% DOD / 80% DOD	50% DOD / 80% DOD	50% DOD / 80% DOD
Battery voltage range	46V~58VDC	46V~58VDC	46V~58VDC
Max charging voltage	58VDC / 57VDC	58VDC / 57VDC	58VDC / 57VDC
Max charging current	≤23A	≤45A	≤66A
Max discharging current	≤23A	≤45A	≤66A

Protection devices

Over voltage protection	Yes	Yes	Yes
Low voltage protection	Yes	Yes	Yes
Over current protection	Yes	Yes	Yes
Over load protection	Yes	Yes	Yes
Output current short protection	Yes	Yes	Yes
DC reverse polarity protection	Yes	Yes	Yes

Others

Maximum efficiency	94.0%	94.0%	94.5%
Dimensions(W/H/D)	445/450/162mm	445/450/162mm	445/450/162mm
Weight	16.7kg	16.7kg	16.7kg
Input grid voltage range (single phase)	230Vac±15%	230Vac±15%	230Vac±15%
Operating temperature range	0 °C~+40 °C	0 °C~+40 °C	0 °C~+40 °C
Altitude	2000m	2000m	2000m
Cooling concept	Natural	Natural	Natural
Environmental protection rating	IP20 (indoor used)	IP20 (indoor used)	IP20 (indoor used)
Noise emission (typical)	≤25dB	≤25dB	≤25dB
DC connection	H4/MC4 (opt)	H4/MC4 (opt)	H4/MC4 (opt)
Battery connection	Screw terminal	Screw terminal	Screw terminal
Display	LED+LCD	LED+LCD	LED+LCD
Current sensor:Wired/Wireless	Yes / opt	Yes / opt	Yes / opt
Interfaces:RS232 / RF / WiFi	Yes / Yes / opt	Yes / Yes / opt	Yes / Yes / opt
Warranty	5 years	5 years	5 years

Certificates and Approvals

CE	CE	CE
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Note: *1 Current from PV array, not only to SP, but also to PV inverter.

Product Model

Growatt SPF3000 | SPF5000



Growatt SPF3000/5000 series is perfect for off-grid, backup power and self-consumption applications. It has a pure sine wave output with switchable 50/60Hz frequencies, providing power for every need. SPF3000/5000 can be wired in parallel up to 6 for increasing PV plant size. Also by adding solar MPPT charger controller will double the PV input power to compatible with larger capacity battery.

Leading - edge Technology

Friendly

- Local graphical LCD and four buttons
- Compact design, 12.5KG@470*440*120 mm
- Source priority to charge battery and power load are programmable

Scalable

- Maximum number of units in parallel is up to 6
- Suitable for single phase and three phase system
- Charging power of solar is increasable by expanding solar MPPT charger controller

Smart

- Dual MPPT design for more yields
- Compatible with lead-acid and lithium battery
- Support utility grid and generator voltage input

Datasheet

Growatt SPF3000

Growatt SPF5000

DC input

PV array MPPT voltage range	60-115VDC	60-115VDC
Max. PV array open circuit voltage	145VDC	145VDC
Number of MPP tracker/strings per tracker	2/1	2/1
Max. input power	3500W	3500W
Max. solar charge current	70A	70A

AC input

Rated input voltage	230Vac	230Vac
Input voltage range	170-280Vac(UPS), 90-280Vac(APL)	170-280Vac(UPS), 90-280Vac(APL)
Max. input voltage	300Vac	300Vac
Rated input frequency	50Hz/60Hz	50Hz/60Hz
Input frequency range	40-65Hz	40-65Hz
Switching time	10ms(UPS) 20ms(APL)	10ms(UPS) 20ms(APL)
Max. AC charge current	30A	60A

AC output

Rated output power	2.4KW(3KVA)	4KW(5KVA)
Rated output voltage	230VAC(default)/208VAC/240VAC	230VAC(default)/208VAC/240VAC
Rated output frequency	50Hz(default)/60Hz	50Hz(default)/60Hz
Surge power	10s(110%-150%)5s(150%-200%)	10s(110%-150%)5s(150%-200%)

Battery

Battery type	Lithium/Lead-acid	Lithium/Lead-acid
Rated voltage	48VDC	48VDC
Voltage range	46.4-57.4V/38.4-60V	46.4-57.4V/38.4-60V
Max. charging current	100A	130A
Max. charging voltage	57.4V	57.4V
Max. efficiency	93.5%	93.5%
Standby power consumption	2W	2W

Protection

Overvoltage protection	yes	yes
Undervoltage protection	yes	yes
Overload protection	yes	yes
Output short circuit protection	yes	yes
Over temperature protection	yes	yes

General Data

Dimension (D*W*H) in mm	470*440*120	470*440*120
Weight	12.5kg	12.5kg
Noise emission	≤48dB	≤48dB
Operating temperature range	-10°C ~ +55°C	-10°C ~ +55°C
Storage temperature range	-15°C ~ +60°C	-15°C ~ +60°C
Humidity	5~90%(non-condensing)	5~90%(non-condensing)
Attitude	2000 m	2000 m
Communication interface	RS232/RF/3G/WiFi	RS232/RF/3G/WiFi
Warranty	3 years	3 years

Certificates and Approvals

CE

New Generation Lithium Battery

Growatt GBLI 2701 | GBLI 5001



Customer friendly design

- Wall-mounted design, saving installation space
- High energy density, low installation cost
- Wide temperature range and long storage period acceptable

Best battery for Residential solar storage system

- Larger DOD to maximize usage of battery capacity
- Long cycle life to ensure lowest cost per Wh
- Excellent quality cell along with experienced BMS design team to mostly ensure the safety while operating
- Intelligent over voltage/current/temperature protection, LED to indicate status realtimely

Datasheet	Growatt GBLI 2701	Growatt GBLI 5001
Nominal parameters		
Voltage	51.1V	51.1V
Capacity	53Ah	95.4Ah
Energy	2708Wh	4875Wh
Electrical parameters		
Operating voltage	46~57 V	46~57 V
Maximum charge voltage	57 V	57 V
Maximum discharge current	23 A	45 A
Maximum charge current	23 A	45 A
Communication parameters		
Network interface	RS485(RJ45)	RS485(RJ45)
Communication protocols	MODBUS	MODBUS
Structural parameters		
Width	580 mm	800 mm
Height	580 mm	610 mm
Depth	137 mm	167 mm
Weight	30 kg	46.5 kg
Other parameters		
Life (25°C)	10 years	10 years
Life cycles (80% DOD, 25°C)	≥5000	≥5000
Maintenance	Free in quality guarantee period	Free in quality guarantee period
Storage time (-20°C~35°C)	3 months power off	3 months power off
Operation temperature	-10°C~45°C	-10°C~45°C
Storage temperature	-40°C~60°C	-40°C~60°C
Transport standard	UN 38.3	UN 38.3
EMC standard	IEC 61000	IEC 61000
Warranty	5 years	5 years

Product Model

Growatt PCS50 | PCS100
PCS250 | PCS500



Growatt PCS battery inverter is designed for large volume storage system to

- Firm unstable solar power to increase grid power quality, or to
- Increase the usage of solar energy and reduce grid electricity cost, or to
- Serve as back up power supply for local electrical equipments during grid power outage, or to
- Serve as temporary power supply for remote area or certain events

Leading - edge Technology

Features

- Touch Screen LCD
- Flexible Battery Type (li-ion, lead-acid)
- Comprehensive Protection for Inverter and Battery
- Multiple Working Mode Presetable
- Battery Forecast (discharge time, capacity, etc)
- CAN and RS485 Communication Interface, Modbus Protocol
- Seamless transfer between on and off grid (optional)
- Flexible design, multiple inverters parallelable
- Build-in transformer for grid isolation (for model below 500kW)

Datasheet	Growatt PCS50	Growatt PCS100	Growatt PCS250	Growatt PCS500
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AC(Grid-connected)

Rated power	50KVA	100KVA	250KVA	500KVA
Rated voltage	400V	400V	400V	400V
Voltage Range	310V - 450V	310V - 450V	310V - 450V	320V-460V
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Frequency range	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz
THDI	<3%	<3%	<3%	<3%
PF	0.9lagging~0.9leading	0.9lagging~0.9leading	0.9lagging~0.9leading	0.9lagging~0.9leading
Output from	3/N/PE	3/N/PE	3/N/PE	3/N/PE

General Information

Maximum efficiency	95.5%	97.1%	97.3%	97.5%
Environment compatibility	IP20	IP20	IP20	IP20
Noise	<65dB	<65dB	<65dB	<65dB
Environment temperature	-25 °C ... +55 °C	-25 °C ... +55 °C	-25 °C ... +55 °C	-25 °C ... +55 °C
Cooling	Air Forced	Air Forced	Air Forced	Air Forced
Humidity	0 ~95% non-condensing	0 ~95% non-condensing	0 ~95% non-condensing	0 ~95% non-condensing
Altitude	5000m(derated above 3000m)	5000m(derated above 3000m)	5000m(derated above 3000m)	5000m(derated above 3000m)
Dimension (W/D/H)	600/800/1630 mm	1100/850/1890 mm	1600/850/2080 mm	1205/800/1905 mm
Weight	450KG	820KG	1465KG	900KG
Transformer	Low frequency	Low frequency	Low frequency	Transformerless
Transfer between on/off grid	Manual(default) Automatic(optional)≤20ms	Manual(default) Automatic(optional)≤20ms	Manual(default) Automatic(optional)≤20ms	Manual(default) Automatic(optional)≤20ms

AC(off-grid)

Rated voltage	400Vac	400Vac	400Vac	400Vac
THDU	≤1%linear	≤1%linear	≤1%linear	≤1%linear
Rated frequency	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

DC(battery)

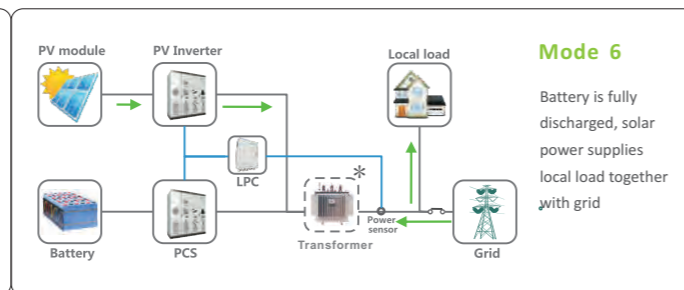
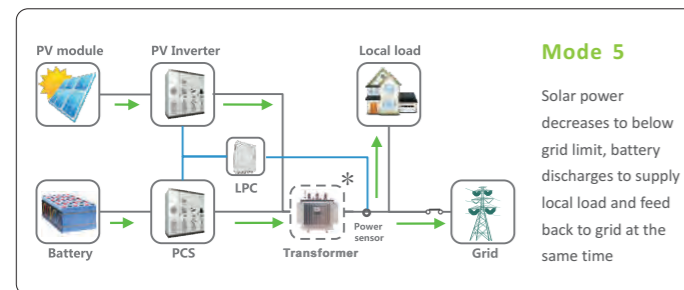
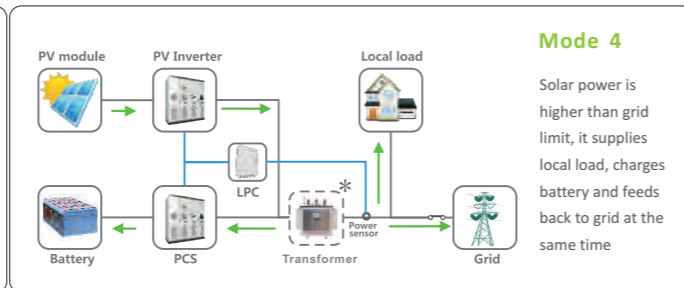
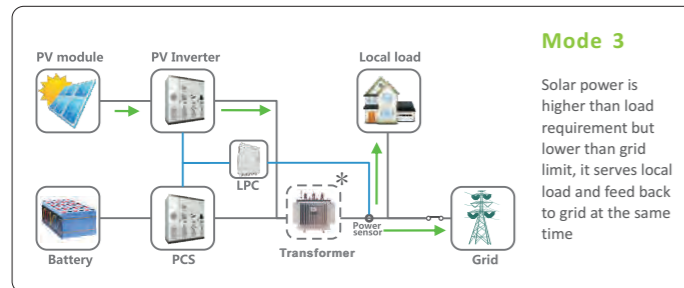
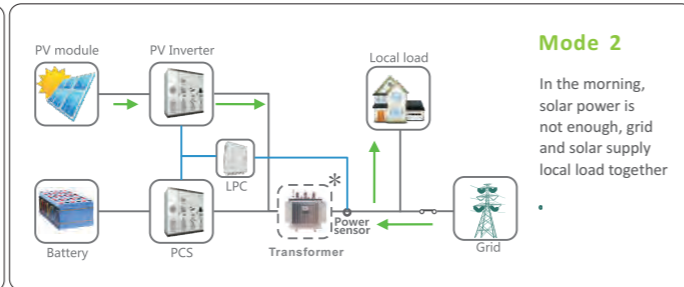
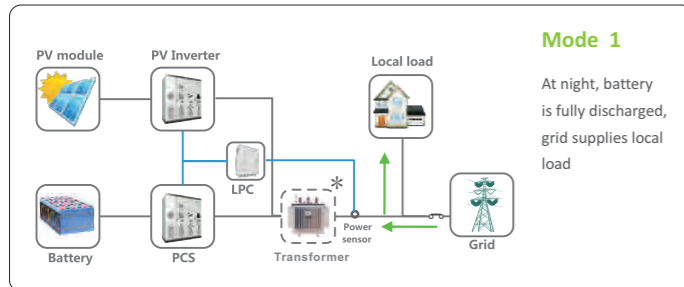
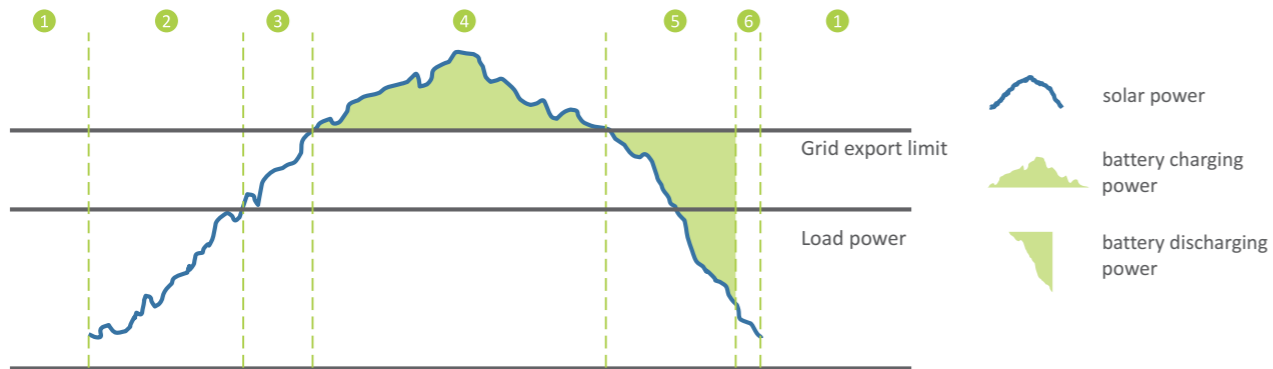
Max power	55KW	110KW	275KW	550KW
Current regulation	±1%	±1%	±1%	±1%
Voltage regulation	±1%	±1%	±1%	±1%
Voltage ripple	<3%	<3%	<3%	<3%
Current ripple	<2%	<2%	<2%	<2%
Rated voltage	600V	600V	600V	700V
Voltage range	500-820V	500-820V	500-820V	600-900V
Rated current	84A	180A	460A	723A
Max current	125A	220A	550A	870A
Input numbers	1	1	1	1

Communication

Display	Touch Screen LCD	Touch Screen LCD	Touch Screen LCD	Touch Screen LCD
Communication interface	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN

Typical Application

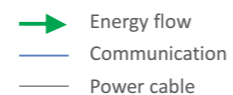
Hybrid System/Peak-shaving Application



NOTE

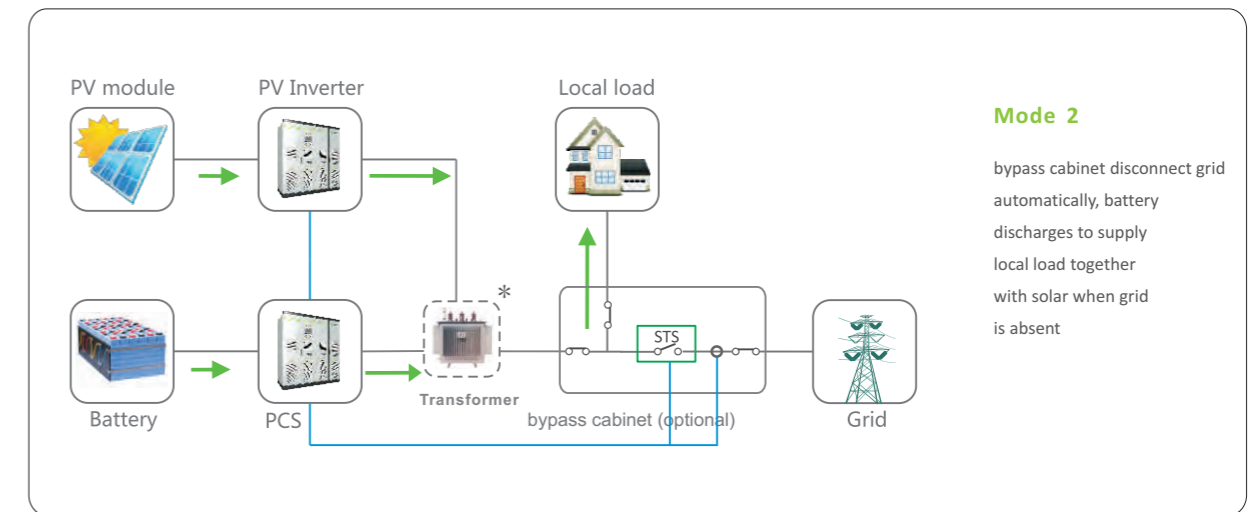
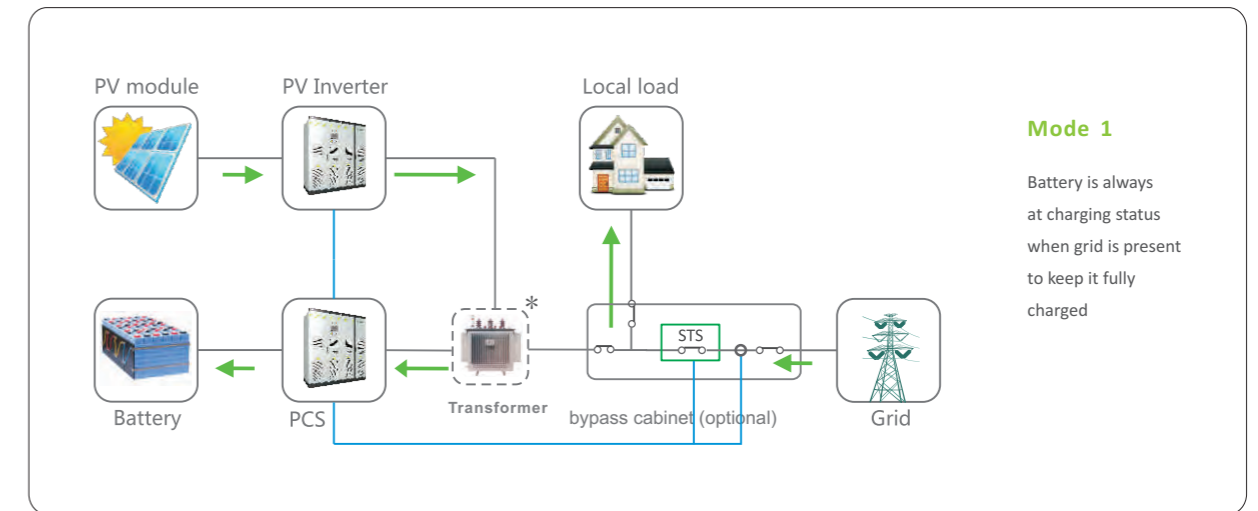
1. Output power of inverter and PCS can be controlled by the feedback information from power sensor value adjustable

* Only for PCS500



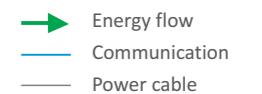
Typical Application

Hybrid System/Back-up Application



NOTE

* only for PCS500



Product Model

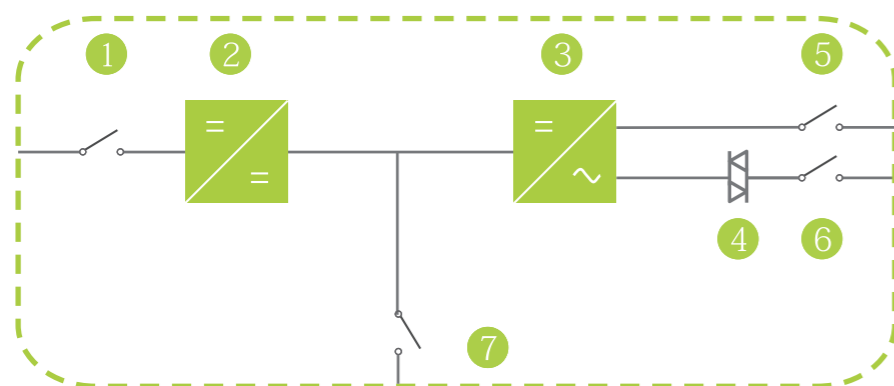
Growatt HPS30 | HPS50 HPS120 | HPS150



Leading - edge Technology

- All in one solution with PV, battery, load and grid integrated
- Expandable PV controller for flexible PV capacity design
- Touch Screen LCD
- Flexible Battery Type(li-ion,lead-acid)
- Comprehensive Protection for Inverter and Battery
- Multiple Working Mode Presetable
- Battery Forecast (discharge time, capacity, etc)
- CAN and RS485 Communication Interface, Modbus Protocol
- Seamless transfer between on and off grid via build in transfer switch
- Build-in transformer for grid isolation

Block Diagram



1. PV breaker
2. PV controller
3. Bidirectional Inverter
4. Transfer switch
5. Load breaker
6. Grid breaker
7. Battery breaker

Datasheet

AC(Grid-connected)

	Growatt HPS30	Growatt HPS50	Growatt HPS120	Growatt HPS150
Rated power	38kVA	60kVA	150kVA	188kVA
AC active power	30kW	48kW	120kW	150kW
Rated voltage	400V	400V	400V	400V
Voltage Range	360V - 440V	360V - 440V	360V - 440V	360V - 440V
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Frequency range	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz
THDI	<3%	<3%	<3%	<3%
PF	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

AC(Off-grid)

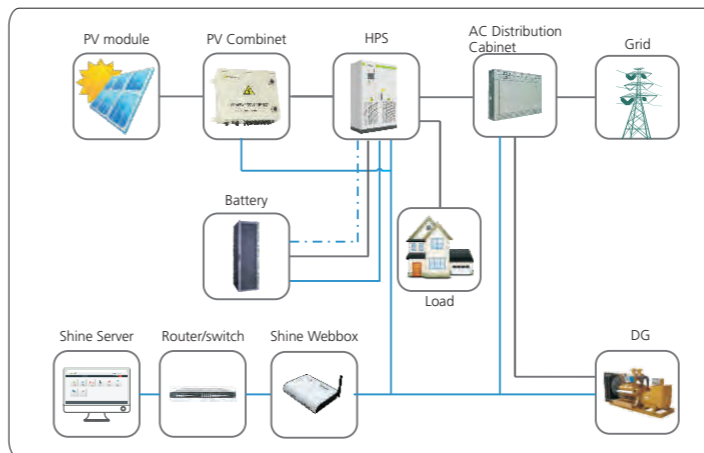
	Growatt HPS30	Growatt HPS50	Growatt HPS120	Growatt HPS150
Rated power	38kVA	60kVA	150kVA	188kVA
AC active power	30kW	48kW	120kW	150kW
Rated voltage	400V	400V	400V	400V
THDU	≤1%linear	≤1%linear	≤1%linear	≤1%linear
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Overload capability	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min

DC

	Growatt HPS30	Growatt HPS50	Growatt HPS120	Growatt HPS150
Max. voltage of the PV production	1000 VDC	1000 VDC	1000 VDC	1000 VDC
Max. PV power	33kWp	55kWp	132kWp	165kWp
PV MPPT voltage range	480VDC-800VDC	480VDC-800VDC	480VDC-800VDC	480VDC-800VDC
*Battery voltage	352V-600V	352V-600V	352V-600V	352V-600V

General Data

	Growatt HPS30	Growatt HPS50	Growatt HPS120	Growatt HPS150
Dimension (W/D/H)	950/750/1850mm	950/750/1850mm	1350/750/1850mm	1350/750/1850mm
Weight	500KG	600KG	1050KG	1200KG
Operating Temperature Range	-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%
Degree of Protection	IP20	IP20	IP20	IP20
Noise Emission	65dB(A)@1m	65dB(A)@1m	65dB(A)@1m	65dB(A)@1m
Maximum Operating Altitude	6000m (Derating over 3000m)	6000m (Derating over 3000m)	6000m (Derating over 3000m)	6000m (Derating over 3000m)
Cooling	Air Forced	Air Forced	Air Forced	Air Forced
Display	Touch screen LCD	Touch screen LCD	Touch screen LCD	Touch screen LCD
Communication Interface	RS485/Ethernet	RS485/Ethernet	RS485/Ethernet	RS485/Ethernet
Transfer time	≤10ms	≤10ms	≤10ms	≤10ms



- power cable
- RS485 communication
- - - CAN communication

* Battery voltage upper limit should be calculated according to below equation:
 $V_{battery,max} = (V_{mppt} - 100) * V_1 / V_2$
 $V_{battery,max}$ is max allowed battery string voltage; V_{mppt} is PV string mppt voltage;
 V_1 is battery cell rated voltage; V_2 is battery cell boost charge voltage

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Growatt



Monitoring System

ShineWiFi | ShineLan | ShineVision | ShineLink
ShineWebBox | ShineServer | ShinePhone

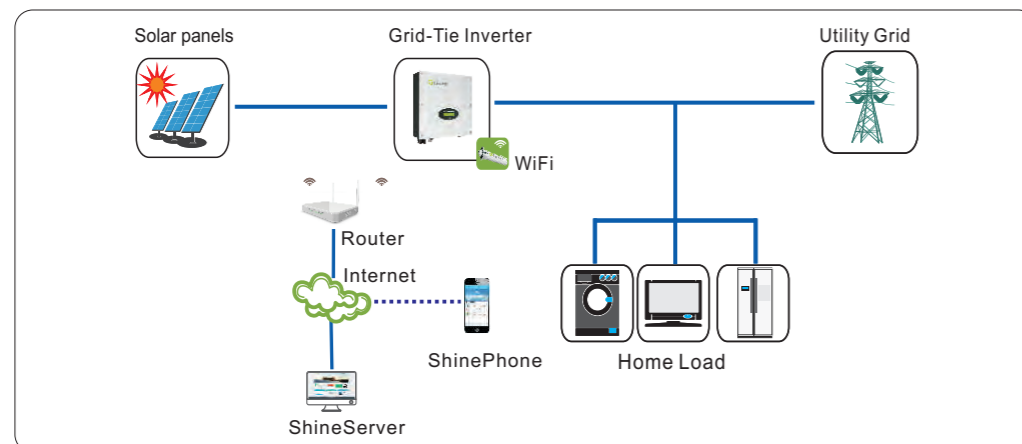
Product Model

Growatt ShineWiFi



Newly recommended for house-owners

- Easy to use
- Plug-and-play commissioning
- 100-meter wireless connection to inverter
- Remote firmware updating for inverter



Datasheet

ShineWiFi

General Data

Dimensions(Length/Width/Height)	135/79/29 mm
Weight	63g
Software language	English, Chinese
Language of the manual	English, Chinese

Wireless Parameters

Certification	FCC/CE
Wireless type	WiFi
Wireless standard	802.11 b/g/n
Frequency range	2.412GHz ~ 2.484GHz
Antenna gain	2.5 dBi
Transmit power	802.11b: +20dBm(Max.) 802.11g: +18dBm(Max.) 802.11n: +15dBm(Max.)
Receiver sensitivity	802.11b: -89dBm(Max.) 802.11g: -81dBm(Max.) 802.11n: -71dBm(Max.)

Hardware Parameters

Data interface	UART : 9600bps Ethernet : 100Mbps
Operating voltage	9V(+/-15%)
Operating current	100mA ~ 300mA
Operating temperature	-25°C ~ +55°C
Storage temperature	-30°C ~ +60°C
Network type	AP(Access Point) Mode; Station Mode(with Soft AP)

Software Parameters

Security mechanisms	WEP/WPA-PSK/WPA2-PSK/WAPI
Encryption	WEP64/WEP128/TKIP/AES
WLAN default IP	192.168.10.100

Application Parameters

Supported servers	ShineServer
Inverter communication	RS232(Modbus RTU protocol)
Server communication	WiFi via router(Modbus TCP protocol)
Supported routers	Wireless router(Include 3G router)
User configuration interface	Integrated web server(Internet browser)
Max.communication range	100m
Data transfer interval	5 Minutes
Default server URL	server.growatt.com

Others

Warranty	1 year
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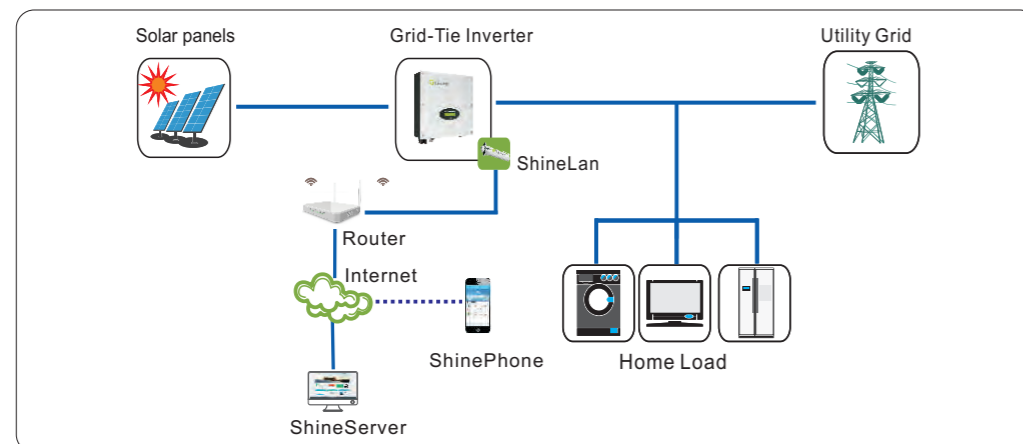
Product Model

Growatt ShineLan



Newly recommended for house-owners

- Easy to use
- Plug-and-play commissioning
- Direct data exchange with Router via Rj45
- Remote firmware updating for inverter
- Free online monitoring via Shine Server



Datasheet

ShineLan

General Data

Dimensions(Length/Width/Height)	144/80/38 mm
Weight	100g
Software language	English, Chinese
Language of the manual	English, Chinese
Certification	FCC/CE

Wireless Parameters*

Wireless type	WiFi
Wireless standard	802.11 b/g/n
Frequency range	2.412GHz ~ 2.484GHz
Antenna gain	2.5 dBi
Security mechanisms	WEP/WPA-PSK/WPA2-PSK/WAPI
Encryption	WEP64/WEP128/TKIP/AES

Wired Parameters

Data speed of UART	9600bps
Data speed of Ethernet	100Mbps
Type of interface	RS232、RJ45
Indicator lamp	LED for status of network / LED for status of data transmission

Hardware Parameters

Operating voltage	9V(+/-20%)
Operating current	100mA ~ 300mA
Operating temperature	-25°C ~ +55°C
Storage temperature	-30°C ~ +60°C

Software Parameters

WLAN default IP	192.168.10.100
Supported servers	ShineServer
Auto switch between wired and wireless	Support
Ways of firmware update	Integrated web server/Remote FTP Server

Application Parameters

Inverter communication	RS232(Modbus RTU protocol)
Server communication	RJ45 via router (Modbus TCP protocol)
Supported routers	Common router (Include wired router, wireless router and 3G router)
User configuration interface	Integrated web server(Internet browser)
Max.communication range	100m by direct interconnection, far in successive steps
Data transfer interval	5 Minutes (default)
Default server URL	server.growatt.com

* Available in the future

Product Model

Growatt ShineVision



The all-in-one wireless monitoring package for home

Informative, cute, and easy to operate, the ShineVision with Radio Frequency not only has sexy design, but also provides an innovative monitoring solution. Key data is visible on its display, including daily, monthly, total power yield and income, DC and AC voltage, energy yield in Euros, US dollars and Pounds, temperature, time, as well as insolation levels, which can be accessed just like a mobile phone. It can update and store the latest data permanently. ShineVision also can be set up to emit an audio signal to tell operators of system errors automatically.

Features

- RF communication for wireless operation
- Automatic monitoring of up to six inverters simultaneously, applicable for small home system
- Simple installation. It can be placed anywhere indoor with signal coverage
- Easy-to-understand data display by simple key operation: real-time power, three-phase AC voltage, PV voltage, daily, monthly and total power yield and income, temperature, light intensity, the date and time
- Data archiving automatically and permanently with high security
- Audio alarm in the event of errors
- Low power consumption, powered by adaptor or battery

Datasheet

ShineVision

Communication

Inverter communication	Wireless radio frequency
Number of inverters	Max.6 units

Communication range

Partition communication	Max.30m
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Power supply

Power adapter	Input : 100-240V, 50/60Hz AC Output: 5V/0.1A AC
Type of battery	Number 5 AA alkaline battery

Environmental conditions for operation

Emitter temperature	-10°C ~ 60°C
Monitor temperature	-10 °C ~ 50°C
Humidity range	≤80%
Protection rating	IP20

General Data

Dimensions (W / H / D)	217/150/72 mm
Weight	0.82kg
Installation site	Indoor
Deployment options	Desktop device
Language versions	English

Features

Display	LCD display
Operation	key-press
Warranty	12 months

Information displayed

General Information	Time, date, temperature
System Data	AC voltage, PV voltage, daily yield, monthly yield, total yield, etc.

Product Model

Growatt ShineLink



Leading - edge Technology

ShineLink is a new generation monitoring solution for grid-tie, off-grid inverter and it is composed of ShineLanBox and ShineRFStick. Unique wireless communication (RF433) makes the installation more convenient and flexible.

Simple

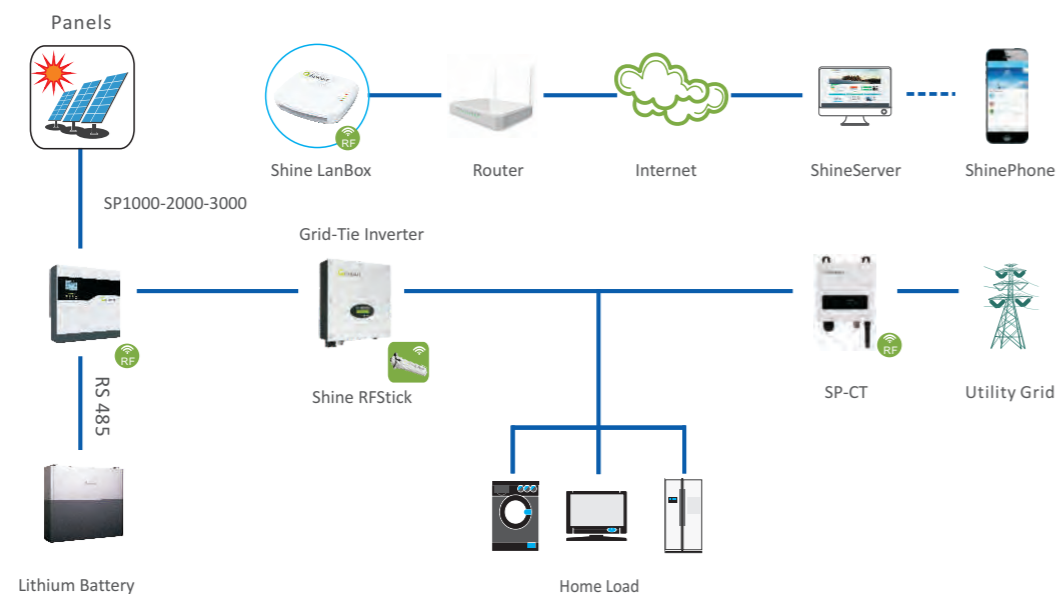
- Easily installation
- Automatic IP addressing
- Plug-and-play

Reliable

- Max. communication range of 200m
- Data archiving for 40 days even the internet outage

Smart

- Monitoring of up 8 inverters via RF433
- Both Android and IOS UI are available



Datasheet

ShineLink

Communication interface

RF433/RS485 Yes/Opt

Max. Communication range

RF433(in free-field conditions) Up to 200 m
 RF433(two walls blocking) 20 m
 RS485 1000 m

Power supply

AC power supply input voltage 196V~250V
 AC power supply input frequency 50/60Hz
 Power consumption <2W standby, <5W peak

Current measurement

Measurement range Max.90A
 Accuracy 3%

General specifications

Dimensions(L/H/W) 105mm/85mm/26mm
 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), 32(RS485)
 Warranty 5years

Certificates and Approvals

CE

Product Model

Growatt ShineWebBox



It is a cost-effective and compact monitoring device, specially designed for solar power plant. Using stable Linux operating system with high-speed CPU, smartly record your system features. Provide local data storage, wireless and easy TCP/IP configuration, and present plant data over Internet.

Features

- A multi-functional and high-performance communication data logger
- Keep user informed of the system's status at any time
- Massive storage with flexible parameters setting, system information management, reactive power control, error prompt and record
- Remote monitoring and maintenance for medium and large solar power plants
- Flexible display, evaluation and rapid detection of any change
- Collects data and uploads information over the internet in near real-time to Growatt Shine Server platform

Datasheet

ShineWebBox

Communication

Communication with inverters	RS485 (Wire connection) ZigBee (Wireless connection)
Communication with PC	10/100 Mbit Ethernet
Communication range	RS485: 1200m ZigBee: 300m (without obstacle) Ethernet: 100m

Electrical Data

Power adapter	Input: 100~240V,50/60Hz AC Output: 5V,2A DC
Power consumption	2.5W

Environmental Conditions

Ambient temperature	0 - 45°C
Relative air humidity	5%-95%

General Data

Dimensions(W/H/D)	185/125/30 mm
Net weight	0.42kg
Mounting location	Indoor
Mounting type	Wall mounting , tabletop device
Status indicator	LED
Language	English
Data update frequency	5 minutes

Product Model

Growatt ShineServer



Whether for residential system or commercial system, even for PV power station, Growatt could deliver a satisfactory monitoring solution based on Shine Server, which acts as a reliable, powerful and secure web-enabled platform. With flexible and sophisticated design, Shine Server provides highly interactive and immediate access to key system data at any time and any place. Special views are enabled accounting for the different requirements of different applicants and target groups. The powerful analysis and reporting functions help owners and operators to improve the productivity of PV plant and the efficiency of operations.

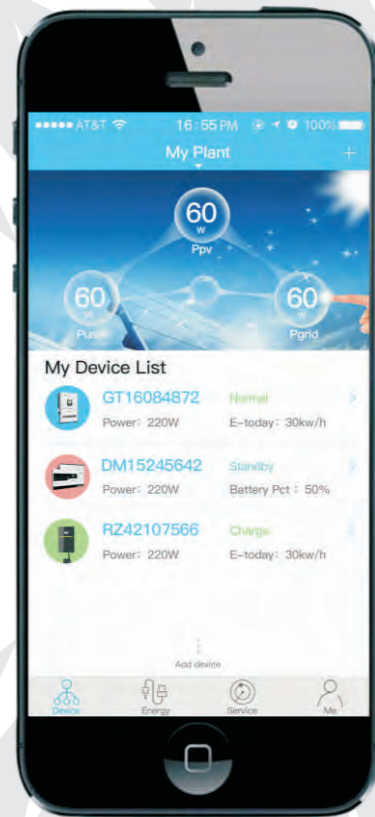
Features

- Ease of operation and maintenance
- Quick overview of all PV plant status
- Monitor and record several of PV plants with centralized management
- Professional analysis function to help maximize the system performance
- Real-time access to key performance worldwide via PC or mobile phones

Datasheet	ShineServer
Languages	
Available languages	English, Chinese, French, Japanese
System requirements	
Supported operating systems	All
Recommended browsers	Internet Explorer as of version 8, Firefox as of version 5, Google Chrome as of version 14, Safari as of version 5, Opera as of version 11
Supported data logger	Shine WebBox、ShineWiFi、ShineLAN、ShinePhone
Access	
Website	http://server.growatt.com
Plant information	
Plant overview	Quick yield overview of all your PV plants
Specified plant	All important data at a glance including energy output, yield gains, environmental status
Plant installation data	Summary of all plant information which contains installation data, location data and income data
Device overview	Display of all important data about data logger, inverters, environment monitor, smart meter and other key devices
Time periods	5 mins
Plant management	
Account	User could manage all PV plants with one same account
Monitoring	
Inverter status	All inverter running status are recorded automatically. The warning of fault is highlighted and immediate.
Status reporting	
Event reports	Timely e-mail reports on system fault and plant error.
Background operating	
Plant management	Add new plant, edit and delete existed plant
Device management	Intuitive operation to manage all devices
Inverter setting	simple parameter setting for inverters including power management

Product Model

Growatt ShinePhone



Download **ShinePhone**



Datasheet

ShinePhone

General Data

Available languages	English, Chinese, Japanese, Dutch, Hungarian, Italian
Supported operating systems	Android / iOS
Source of data	server-growatt-com

Plant information

Plant overview	Quick yield overview of all your PV plants
Specified plant	All important data at a glance including energy output, yield gains, current power
Plant installation data	Summary of all plant information which contains installation data, location data and income data
Device overview	Display of all important data about inverters, environment monitor, and electric meter
Plant event log	Display of all the warning events of the plant

Device information

Inverter data	All inverter running status and data could be obtained at any time
Environment monitor data	Key parameters about environment could be obtained
Electric meter data	Primary parameters at the point of connection are collected in every measured period

String Inverter Project List

Phitsanulok Thailand 134MW solar plant

Location
Phitsanulok, Thailand

Project Volume
134MW

Model Used
Growatt 16700TL3-HE-TH



Gent Belgium 4MW solar plant

Location
Gent, Belgium

Project Volume
4MW

Model Used
Growatt 20000UE



China Southern Grid 52MW rooftop solar plant

Location
Guangdong, China

Project Volume
52MW

Model Used
Growatt 40000TL3



Frankfurt Germany 4.3MW solar plant

Location
Frankfurt, Germany

Project Volume
4.3MW

Model Used
Growatt 20000UE

Brisbane Australia 30kW solar plant

Location
Brisbane, Australia

Project Volume
30kW

Model Used
Growatt 20000UE
Growatt 10000UE



New Jersey 2MW solar plant

Location
New Jersey, USA

Project Volume
2MW

Model Used
Growatt 20000TL3-US



Foxcon 20MW rooftop solar plant

Location
Hubei, Jiangsu, China

Project Volume
20MW

Model Used
Growatt 20000UE



Netherland power 1.5MW solar plant

Location
Netherland

Project Volume
1.5MW

Model Used
Growatt 20000UE

National Grid Longyuan 8.5MW renewable city demo solar plant

Location
Xinjiang, China

Project Volume
8.5MW

Model Used
Growatt 20000UE



Greece 1.2MW solar plant

Location
Greece

Project Volume
1.2MW

Model Used
Growatt 20000UE



Growatt Zhejiang 5MW solar plant

Location
Zhejiang, China

Project Volume
5MW

Model Used
Growatt 20000UE



Hyperion 4MW solar plant

Location
Hyderabad, India

Project Volume
4MW

Model Used
Growatt 20000TL3-HE

Central Inverter Project List



Ground solar plant 127MW in Lampang Thailand

Location
Lampang, Thailand

Project Volume
127MW

Model Used
Growatt CP 500 Station



Hainan Taineng 20MW hill solar plant

Location
Hainan, China

Project Volume
20MW

Model Used
Growatt CP500TL

Qinghai Germu 72MW Suncore solar plant

Location
Qinghai, China

Project Volume
72MW

Model Used
Growatt CP500TL
Growatt CP1000 Station



National Grid Hengguan 20MW desert solar plant

Location
Inner Mongolia, China

Project Volume
20MW

Model Used
Growatt CP1000 Station



Shenyang Jindu 40MW BIPV solar plant

Location
Dalian, China

Project Volume
40MW

Model Used
Growatt 20000UE



China Southern Grid 12MW rooftop solar plant

Location
Guangdong, China

Project Volume
12MW

Model Used
Growatt CP1000 Station

SAIC 40MW rooftop solar plant

Location
Shanghai, Nanjing, China

Project Volume
40MW

Model Used
Growatt CP1000 Station



Canadian Solar 10MW hill solar plant

Location
Jiangsu, China

Project Volume
10MW

Model Used
Growatt CP1000 Station



Ground solar plant 20MW in Ghana Africa

Location
Ghana

Project Volume
20MW

Model Used
Growatt CP500TL



3.3MW greenhouse solar plant in Henan

Location
Henan, China

Project Volume
3.3MW

Model Used
Growatt CP1000 Station

Storage System Project List



Suffolk, UK residential storage system

Location
Suffolk, UK

Model Used
Growatt SP2000
Growatt GBLI 5001

Leicester, UK residential storage system

Location
Leicester, UK

Model Used
Growatt SP2000
Growatt GBLI 5001



Norwich, UK residential storage system

Location
Norwich, UK

Model Used
Growatt SP2000
Growatt GBLI 5001



Perugia residential storage system

Location
Perugia, Italy

Model Used
Growatt SP2000
Growatt GBLI 5001



South Africa Durban storage system

Location
Durban, South Africa

Project Volume
50kW, 60kWh

Model Used
Growatt PCS 50



Factory storage system in South Africa

Location
South Africa

Project Volume
100kW, 200kWh

Model Used
Growatt PCS 100

Jamaica factory storage system

Location
Jamaica

Project Volume
100kW, 90kWh

Model Used
Growatt PCS 100



Royal Thai Airforce storage system

Location
Thailand

Project Volume
1.9MW, 2.7MWh

Model Used
Growatt PCS 100

Xinjiang Military storage system

Location
Xinjiang, China

Project Volume
100kW, 200kWh

Model Used
Growatt PCS 100



Bintan Island storage system in Indonesia

Location
Bintan Island, Indonesia

Project Volume
250kW, 500kWh

Model Used
Growatt PCS 250