

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

**T** 86 755-2747-1900 **F** 86 755-2747-2131

SHENZHEN GROWATT NEW ENERGY CO.,LTD.  
2nd & 3rd Floor, Building 4, Jiayu Industrial Zone, Xibianling, Shangwu  
Village, Shiyan, Baoan District, Shenzhen

twitter&facebook: Growatt New Energy

GR-CA-008-03



Smart  
Photovoltaic  
Inverter  
Series



2021

**G**ROWATT

# GLOBAL NETWORK

## ONLINE SMART SERVICE

Growatt has developed the OSS (Online Smart Service) management system for installers and distributors, which significantly improves service efficiency and customer satisfaction. On this platform, clients can monitor their installed PV plants, diagnose and configure the systems remotely, etc. In addition, the platform provides 24/7 online customer service. Growatt OSS reduces 60% onsite visits and the O&M costs.



## PROFESSIONAL TRAINING

As a global leading inverter supplier, Growatt is dedicated to providing comprehensive and professional training in latest PV technologies, installation, monitoring, troubleshooting etc.



## CONTACT US

### Headquarters

Sales  
info@ginverter.com  
+86 755 2747 1900  
Service  
service@ginverter.com  
+86 755 2747 1942

### Germany

Service  
+49 6172 2675500  
service.de@growatt.com

### Hungary

Sales  
+36208004000  
ertekesites@eu-solar.hu  
Service  
+36709070820  
tihanyimark@eu-solar.hu

### Italy

Sales  
+393802459935  
giovannimarino@growatt.it  
Service  
+390758087212  
rma@growatt.it

### The Netherlands

Service  
service.nl@ginverter.com  
+31(0)85 040 9967

### Taiwan

Service  
0800-208022  
service@vgwatt.com

### United Kingdom

Service  
+44(0)7585 559688  
service@ginverter.com

### Australia

Service  
1800 476 928  
australia@ginverter.com

### United States

Service  
usaservice@ginverter.com  
+1 (818) 800 9177

### India

Service  
1800 120 600 600  
indiasupport@growatt.com

### Mexico

Service  
+52 1 3314 17 04 25  
mx.service@growatt.com

### Brazil

Service  
+5511 26104004  
servicebrazil@growatt.com

### Vietnam

Sales  
+86 158 9758 5598  
derrick.ding@growatt.com  
Service  
servicevietnam@growatt.com

# 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 smart energy management solutions as well. The power capacity of Growatt on-grid inverters ranges from 750W to 253 kW, meanwhile its off-grid and storage inverters cover a power range from 1 kW to 630 kW.



Founded in 2010, Growatt has been dedicated to the R&D of PV solutions. Our R&D team has more than 400 professional engineers, most of whom have over 15 years of experience in the industry. Elegant, smart and powerful features have been brought by the R&D team to the latest inverters, which are very well received by customers across the globe. By far Growatt has achieved more than 110 patents and copyrights.

Localization is crucial to Growatt's global strategy. Over the years, Growatt has established an extensive service network with 14 offices and warehouses around the world, and we've also built strong and experienced local teams in key markets, such as Europe, Australia, India, and the Americas.

By the end of 2020, Growatt has shipped over 2.6 million inverters to over 100 countries and regions across the globe. According to the reports released by Wood Mackenzie and IHS Markit, Growatt was among the top 10 global PV inverter suppliers in 2020!

At Growatt, we are customer-oriented and we highly value our partnership with local clients. Since foundation, we have developed strong relationship with our partners around the world, and we look forward to bringing clean solar energy to more people.

2021

2010



2,600,000+

Inverters Shipped Globally



100+

Countries with Installed Systems

# BRAND POWER

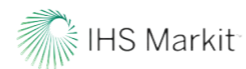
WORLD  
TOP 10

Growatt was among the world's top 10 PV inverter suppliers in 2019 according to the reports released by Wood Mackenzie and IHS Markit.



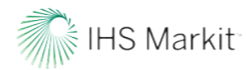
WORLD  
TOP 2

Growatt came in the second place for world residential PV inverter shipments in 2019 according to PV Inverter Market Tracker released by IHS Markit.



WORLD  
TOP 5

For three-phase string inverter shipments in 2019, Growatt was one of the global top 5 suppliers according to IHS Markit.



## ALL QUALITY MATTERS AWARD



Growatt has received All Quality Matters Award for MAX inverter, which ranked first in TÜV Rheinland's PVE test program for high power commercial and industrial PV inverter.

## TOP BRAND PV INVERTERS



Growatt has been awarded Top Brand PV Seals in Netherlands, Belgium, Denmark, Poland and Australia by EUPD Research from 2018 to 2020.

# TECH INNOVATION

DOUBLE A+

## LEADING EFFICIENCY

In 2014, Growatt 20KTL3-HE inverter received double A+ rating by PHOTON Lab with maximum efficiency exceeding 99%.

99.06%

110+

## 110+ PATENTS AND COPYRIGHTS

## GROWATT QUALITY

Growatt is committed to high product quality and has introduced a comprehensive quality control system, the Five Quality Engineering System, which includes Design Engineering, Component Engineering, Test Engineering, Reliability Engineering, and Manufacturing Engineering.



Design Engineering



Component Engineering



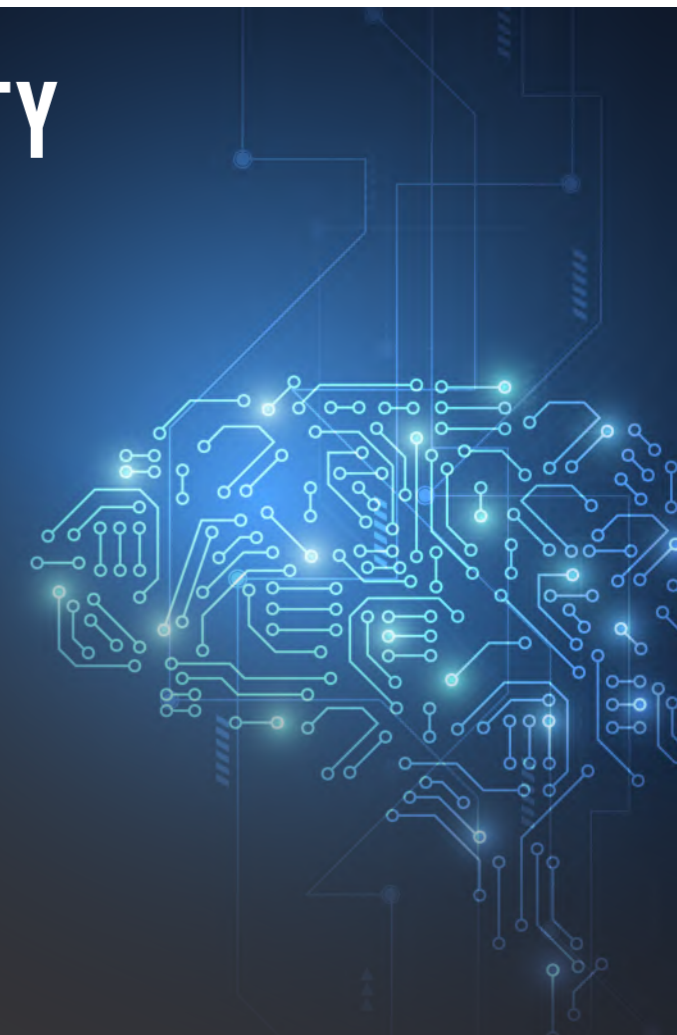
Test Engineering



Reliability Engineering



Manufacturing Engineering



# GROWATT SMART PHOTOVOLTAIC INVERTER SERIES



Residential on-grid inverters



Commercial on-grid inverters



Large commercial and utility grade on-grid inverters



Residential storage inverters



Monitoring solutions

# MIC 750~3300 TL-X



- Maximum efficiency of 97.6%
- Compact design
- Touch key& OLED display
- Flexible monitoring options
- AFCI optional

Datasheet	MIC 750TL-X	MIC 1000TL-X	MIC 1500TL-X	MIC 2000TL-X	MIC 2500TL-X	MIC 3000TL-X	MIC 3300TL-X
<b>Input data (DC)</b>							
Max. recommended PV power (for module STC)	1050W	1400W	2100W	2800W	3500W	4200W	4290W
Max. DC voltage	500V	500V	500V	500V	550V	550V	550V
Start voltage	50V	50V	50V	50V	80V	80V	80V
Nominal voltage	120V	180V	250V	360V	360V	360V	360V
MPP voltage range	50V-500V	50V-500V	50V-500V	50V-500V	65V-550V	65V-550V	65V-550V
No. of MPP trackers	1						
No. of PV strings per MPP tracker	1						
Max. input current per MPP tracker	13A						
Max. short-circuit current per MPP tracker	16A						
<b>Output data (AC)</b>							
AC nominal power	750W	1000W	1500W	2000W	2500W	3000W	3300W
Max. AC apparent power	750VA	1000VA	1500VA	2000VA	2500VA	3000VA	3300VA
Nominal AC voltage(range*)	230V (180-280V)						
AC grid frequency(range*)	50/60 Hz (45-55Hz/55-65 Hz)						
Max. output current	3.6A	4.8A	7.1A	9.5A	11.9A	14.3A	14.3A
Adjustable power factor	0.8leading...0.8lagging						
THDI	<3%						
AC grid connection type	Single phase						
<b>Efficiency</b>							
Max. efficiency	97.4%	97.4%	97.4%	97.4%	97.6%	97.6%	97.6%
European efficiency	96.5%	96.5%	97.0%	97.0%	97.0%	97.1%	97.1%
MPPT efficiency	99.9%						
<b>Protection devices</b>							
DC reverse polarity protection	Yes						
DC switch	Yes						
AC/DC surge protection	Type III / Type III						
Insulation resistance monitoring	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Anti-islanding protection	Yes						
Residual-current monitoring unit	Yes						
AFCI protection	Optional						
<b>General data</b>							
Dimensions (W / H / D)	274/254/138mm						
Weight	6kg	6kg	6kg	6kg	6.2kg	6.2kg	6.2kg
Operating temperature range	-25°C ... +60°C						
Nighttime power consumption	< 0.5W						
Topology	Transformerless						
Cooling	Natural convection						
Protection degree	IP65						
Relative humidity	0-100%						
Altitude	4000m						
DC connection	H4/MC4(Optional)						
AC connection	Connector						
Display	OLED+LED/WIFI+APP						
Interfaces: RS485 / USB/WI-FI / GPRS/ RF/LAN	Yes/Yes/Optional/Optional/Optional /Optional						
Warranty:10 years	Yes						

CE,AS4777, AS/NZS 3100, CEI 0-21, VDE-AR-N 4105, VDE 0126-1-1, UTE C 15-712-1, EN50549, IEC 60068, IEC 61683, IEC 62116, IEC 61727, INMETRO, G98, C10/C11, UNE217001, UNE206007, PO12.2

\* The AC voltage and frequency range may vary depending on specific country grid standard. All specifications are subject to change without notice.

Datasheet	MIN 2500TL-X	MIN 3000TL-X	MIN 3600TL-X	MIN 4200TL-X	MIN 4600TL-X	MIN 5000TL-X	MIN 6000TL-X
<b>Input Data (DC)</b>							
Max. recommended PV power (for module STC)	3500W	4200W	5040W	5880W	6440W	7000W	8100W
Max. DC voltage	500V	500V	550V	550V	550V	550V	550V
Start voltage	100V						
Nominal voltage	360V						
MPP voltage range	80V-500V	80V-500V	80V-550V	80V-550V	80V-550V	80V-550V	80V-550V
No. of MPP trackers	2						
No. of PV strings per MPP tracker	1						
Max. input current per MPP tracker	12.5A						
Max. short-circuit current per MPP tracker	16A						
<b>Output data (AC)</b>							
AC nominal power	2500W	3000W	600W	4200W	4600W	5000W	6000W
Max. AC apparent power	2500VA	3000VA	3600VA	4200VA	4600VA	5000VA	6000VA
Nominal AC voltage (range*)	230V (180-280V)						
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)						
Max. output current	11.3A	13.6A	16A	19A	20.9A	22.7A	27.2A
Adjustable power factor	0.8leading...0.8lagging						
THDI	<3%						
AC grid connection type	Single phase						
<b>Efficiency</b>							
Max. efficiency	98.2%	98.2%	98.2%	98.4%	98.4%	98.4%	98.4%
European efficiency	97.1%	97.1%	97.2%	97.5%	97.5%	97.5%	97.5%
MPPT efficiency	99.9%						
<b>Protection Devices</b>							
DC reverse polarity protection	yes						
DC switch	yes						
AC/DC surge protection	Type III / Type II						
Insulation resistance monitoring	yes						
AC short-circuit protection	yes						
Ground fault monitoring	yes						
Grid monitoring	yes						
Anti-islanding protection	yes						
Residual-current monitoring unit	yes						
AFCI protection	Optional						
<b>General Data</b>							
Dimensions (W / H / D)	375/350/160mm						
Weight	10.8kg						
Operating temperature range	-25°C ... +60°C						
Noise emission (typical)	≤35 dB(A)						
Nighttime power consumption	< 1W						
Topology	Transformerless						
Cooling	Natural convection						
Protection degree	IP65						
Relative humidity	0-100%						
Altitude	4000m						
DC connection	H4/MC4(Optional)						
AC connection	Connector						
Display	OLED+LED/WIFI+APP						
Interfaces: RS485 / USB/WI-FI / GPRS/ RF/LAN	Yes/Yes/Optional/Optional/Optional /Optional						
Warranty: 5 years / 10 years	Yes /Optional						

CE, IEC62109, VDE0126-1-1, AS4777, AS/NZS 3100, VDE-AR-N4105, CQC, IEC61683, IEC60068, IEC61727, IEC62116, INMETRO

\* The AC voltage and frequency range may vary depending on specific country grid standard. All specifications are subject to change without notice.

# MIN 2500~6000 TL-X



- Maximum efficiency 98.4%
- Dual MPP trackers
- Type II SPD on DC side
- Supports export control
- Touch key and OLED display
- Data storage up to 25 years



# MIN 7000~10000 TL-X



- Maximum efficiency 98.1%
- 3 MPP trackers
- Type II SPD on DC side
- Supports export control
- Touch key and OLED display

## GROWATT · PRODUCT

Datasheet	MIN 7000TL-X	MIN 8000TL-X	MIN 9000TL-X	MIN 10000TL-X
<b>Input data (DC)</b>				
Max. recommended PV power (for module STC)	12000W	12000W	13500W	15000W
Max. DC voltage	600V			
Start voltage	100V			
Nominal voltage	360V			
MPP voltage range	60-550V			
No. of MPP trackers	3			
No. of PV strings per MPP tracker	1/1/1		1/1/2	
Max. input current per MPP tracker	13.5A/13.5A/13.5A		13.5A/13.5A/27A	
Max. short-circuit current per MPP tracker	16.9A/16.9A/16.9A		16.9A/16.9A/33.8A	
<b>Output data (AC)</b>				
AC nominal power	7000W	8000W	9000W	10000W
Max. AC apparent power	7000VA	8000VA	9000VA	10000VA
Nominal AC voltage(range*)	220V/160~300V			
AC grid frequency(range*)	50/60Hz(44-55Hz/54-65Hz)			
Max. output current	33.5A	38.3A	43A	45.5A
Adjustable power factor	0.8leading...0.8lagging			
THDI	<3%			
AC grid connection type	Single phase			
<b>Efficiency</b>				
Max. efficiency	98.1%		98.1%	
European efficiency	97.3%		97.6%	
MPPT efficiency	99.5%			
<b>Protection devices</b>				
DC reverse polarity protection	Yes			
DC switch	Yes			
DC/AC surge protection	Type II / Type III			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
Grid monitoring	Yes			
Anti-islanding protection	Yes			
Residual-current monitoring unit	Yes			
AFCI protection	Optional			
<b>General data</b>				
Dimensions (W / H / D)	425/387/180mm			
Weight	18.2kg			
Operating temperature range	- 25 °C ... +60 °C			
Nighttime power consumption	< 1W			
Topology	Transformerless			
Cooling	Natural convection			
Protection degree	IP66			
Relative humidity	0-100%			
Altitude	4000m			
DC connection	H4/MC4(Optional)			
AC connection	Cable gland +OT terminal			
Display	OLED+LED/WIFI+APP			
Interfaces: RS485 / USB/WI-FI/ GPRS/ RF/LAN	Yes/Yes/Optional/Optional/Optional /Optional			
Warranty: 5 years / 10 years	Yes/Optional			

CE, IEC 62116, IEC 61727, IEC62109, INMETRO, AS4777

\* The AC voltage and frequency range may vary depending on specific country grid standard.  
All specifications are subject to change without notice.

# MOD 3000~9000 TL3-X



- Max. efficiency 98.6%
- OLED and touch button
- Type II SPD on DC and AC side
- String Monitoring
- AFCI function ready



## GROWATT · PRODUCT

Datasheet	MOD 3000TL3-X	MOD 4000TL3-X	MOD 5000TL3-X	MOD 6000TL3-X	MOD 7000TL3-X	MOD 8000TL3-X	MOD 9000TL3-X
<b>Input data (DC)</b>							
Max. recommended PV power (for module STC)	4500W	6000W	7500W	9000W	10500W	12000W	13500W
Max. DC voltage	1100V						
Start voltage	160V						
Nominal voltage	580V						
MPPT voltage range	140V-1000V						
No. of MPP trackers	2						
No. of PV strings per MPP tracker	1						
Max. input current per MPP tracker	13A						
Max. short-circuit current per MPP tracker	16A						
<b>Output data (AC)</b>							
AC nominal power	3000W	4000W	5000W	6000W	7000W	8000W	9000W
Max. AC apparent power	3300VA	4400VA	5500VA	6600VA	7700VA	8800VA	9900VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)						
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)						
Max. output current	5.0A	6.7A	8.3A	10.0A	11.7A	13.3A	15.0A
Adjustable power factor	0.8leading...0.8lagging						
THDi	<3%						
AC grid connection type	3W+N+PE						
<b>Efficiency</b>							
MAX. efficiency	98.3%	98.3%	98.3%	98.3%	98.6%	98.6%	98.6%
European efficiency	97.5%	97.5%	97.5%	97.5%	98.1%	98.1%	98.1%
MPPT efficiency	99.9%						
<b>Protection devices</b>							
DC reverse polarity protection	Yes						
DC Switch	Yes						
AC/DC surge protection	Type II / Type II						
Insulation resistance monitoring	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Anti-islanding protection	Yes						
Residual-current monitoring unit	Yes						
String fault monitoring	Yes						
AFCI protection	Yes						
<b>General data</b>							
Dimensions (W / H / D)	425/387/147mm	425/387/147mm	425/387/147mm	425/387/147mm	425/387/178mm	425/387/178mm	425/387/178mm
Weight	12.5kg	12.5kg	12.5kg	12.5kg	14kg	14kg	14kg
Operating temperature range	-25°C ... +60°C						
Nighttime power consumption	< 1W						
Topology	Transformerless						
Cooling	Natural convection						
Protection degree	IP66						
Relative humidity	0~100%						
Altitude	4000m						
DC connection	H4/MC4(Optional)						
AC connection	Connector						
Display	OLED+LED/WIFI+APP						
Interfaces: USB/RS485/WIFI/GPRS/LAN/RF	yes/yes/Optional/Optional/Optional/Optional						
Warranty: 10 years	Yes						
CE, VDE0126, Greece, EN50549, C10/C11, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger G98/G99, G100, AS4777, UNE217001, UNE206007, PO12.2							

\* The AC voltage range and frequency range may vary depending on specific country grid standard. All specifications are subject to change without notice.



# MOD 10~15K TL3-X



- Max. efficiency 98.6%
- OLED and touch button
- Type II SPD on DC and AC side
- String Monitoring
- AFCI function ready

## GROWATT · PRODUCT

Datasheet	MOD 10KTL3-X	MOD 11KTL3-X	MOD 12KTL3-X	MOD 13KTL3-X	MOD 15KTL3-X
<b>Input data (DC)</b>					
Max. recommended PV power (for module STC)	15000W	16500W	18000W	19500W	22500W
Max. DC voltage			1100V		
Start voltage			160V		
Nominal voltage			580V		
MPPT voltage range			140V-1000V		
No. of MPP trackers			2		
No. of PV strings per MPP tracker	1	1	1/2	1/2	1/2
Max. input current per MPP tracker	13A	13A	13/26A	13/26A	13/26A
Max. short-circuit current per MPP tracker	16A	16A	16/32A	16/32A	16/32A
<b>Output data (AC)</b>					
AC nominal power	10000W	11000W	12000W	13000W	15000W
Max. AC apparent power	11000VA*	12100VA	13200VA	14300VA	16500VA
Nominal AC voltage (range*)			220V/380V, 230V/400V (340-440V)		
AC grid frequency (range*)			50/60 Hz (45-55Hz/55-65 Hz)		
Max. output current	16.7A	18.3A	20A	21.7A	25A
Adjustable power factor			0.8leading...0.8lagging		
THDI			<3%		
AC grid connection type			3W+N+PE		
<b>Efficiency</b>					
MAX. efficiency			98.6%		
European efficiency	98.1%	98.1%	98.2%	98.2%	98.2%
MPPT efficiency			99.9%		
<b>Protection devices</b>					
DC reverse polarity protection			Yes		
DC Switch			Yes		
AC/DC surge protection			Type II / Type II		
Insulation resistance monitoring			Yes		
AC short-circuit protection			Yes		
Ground fault monitoring			Yes		
Grid monitoring			Yes		
Anti-islanding protection			Yes		
Residual-current monitoring unit			Yes		
String fault monitoring			Yes		
AFCI protection			Yes		
<b>General data</b>					
Dimensions (W / H / D)			425/387/178mm		
Weight	14kg	14kg	16kg	16kg	16kg
Operating temperature range			-25°C ... +60°C		
Nighttime power consumption			< 1W		
Topology			Transformerless		
Cooling			Natural convection		
Protection degree			IP66		
Relative humidity			0~100%		
Altitude			4000m		
DC connection			H4/MC4(Optional)		
AC connection			Connector		
Display			OLED + LED/WIFI+ APP		
Interfaces: USB/RS485/WIFI/GPRS/LAN/RF			yes/yes/Optional/Optional/Optional/Optional		
Warranty: 10 years			Yes		

CE, VDE0126, Greece, EN50549, C10/C11, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger G98/G99, G100, AS4777, UNE217001, UNE206007, PO12.2

\* For Belgium C10/C11, MOD 10KTL3-X max. output power is limit to 10000VA.

\* The AC voltage range and frequency range may vary depending on specific country grid standard. All specifications are subject to change without notice.

# MID 15~20K TL3-X



- Max. Efficiency 98.75%
- Dual MPP trackers
- Supports export control
- Touch key and OLED display
- Type II SPD on AC and DC side

## GROWATT · PRODUCT

Datasheet	MID 15KTL3-X	MID 17KTL3-X	MID 20KTL3-X
<b>Input data (DC)</b>			
Max. recommended PV power (for module STC)	22500W	25500W	30000W
Max. DC voltage		1100V	
Start Voltage		250V	
Nominal voltage		580V	
MPPT voltage range		160V-1000V	
No. of MPP trackers		2	
No. of PV strings per MPP tracker		2	
Max. input current per MPPT tracker		27A*	
Max. short circuit current per MPPT		33.8A	
<b>Output data (AC)</b>			
Rated AC output power	15000W	17000W	20000W
Max. AC apparent power	16600VA	18800VA	22000VA
Nominal AC voltage(range*)		220V/380V, 230V/400V (340-440V)	
AC grid frequency;(range*)		50/60 Hz (45-55Hz/55-65 Hz)	
Max. output current	24.2A	27.4A	31.9A
Adjustable power factor		0.8leading...0.8lagging	
THDI		<3%	
AC grid connection type		3W+N+PE	
<b>Efficiency</b>			
Max. efficiency		98.75%	
European efficiency		98.6%	
MPPT efficiency		99.9%	
<b>Protection devices</b>			
DC reverse polarity protection		Yes	
DC Switch		Yes	
AC/DC surge protection		Type II / Type II	
Insulation resistance monitoring		Yes	
AC short-circuit protection		Yes	
Ground fault monitoring		Yes	
Grid monitoring		Yes	
Anti-islanding protection		Yes	
Residual-current monitoring unit		Yes	
String monitoring		Yes	
AFCI protection		Optional	
<b>General data</b>			
Dimensions (W / H / D)		525/395/222mm	
Weight		23kg	
Operating temperature range		-25 °C ... +60 °C	
Self-Consumption (night)		< 1W	
Topology		Transformerless	
Cooling		Smart air cooling	
Protection degree		IP65	
Relative Humidity		0~100%	
Altitude		4000m	
DC connection		H4/MC4(Optional)	
AC connection		Cable gland+OT terminal	
Display		OLED+LED/WIFI+APP	
Interfaces: RS485 / USB / WIFI/ GPRS / RF/ LAN		Yes/Yes /Optional/Optional/Optional/Optional	
Warranty:5 years / 10 years		Yes/Optional	

CE, VDE0126, Greece, EN50549, C10/C11, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger, G98/G99, G100, UNE217001, UNE206007, PO12.2, KSC8565

- \* Only the latest version with max. input current 27A per MPP tracker, for details please contact Growatt.
- \* The AC voltage range and frequency range may vary depending on specific country grid standard. All specifications are subject to change without notice.

Datasheet	MID 30KTL3-X	MID 33KTL3-X	MID 36KTL3-X	MID 40KTL3-X
<b>Input data (DC)</b>				
Max. recommended PV power (for module STC)	45000W		49500W	54000W
Max. DC voltage			1100V	
Start Voltage			250V	
Normal Voltage			600V	
MPPT voltage range			200-1000V	
No. of MPPT trackers	3	3	4	4
No. of PV strings per MPPT tracker			2	
Max. input current per MPPT tracker			26A	
Max. short-circuit current per MPPT tracker			32A	
<b>Output data (AC)</b>				
AC nominal power	30000W	33000W	36000W	40000W
Max. AC apparent power	33300VA*	36600VA	39600VA	44000VA
Nominal AC voltage (range*)			220V/380V, 230V/400V (340-440V)	
AC grid frequency (range*)			50/60 Hz (45-55Hz/55-65 Hz)	
Max. output current	50.5A	55.5A	60.0A	66.6A
Adjustable power factor			0.8leading...0.8lagging	
THDi			<3%	
AC grid connection type			3W+N+PE	
<b>Efficiency</b>				
Max. efficiency			98.8%	
European efficiency			98.5%	
MPPT efficiency			99.9%	
<b>Protection devices</b>				
DC reverse polarity protection			Yes	
DC Switch			Yes	
AC/DC surge protection			Type II / Type II	
Insulation resistance monitoring			Yes	
AC short-circuit protection			Yes	
Ground fault monitoring			Yes	
Grid monitoring			Yes	
Anti-islanding protection			Yes	
Residual-current monitoring unit			Yes	
String monitoring			Yes	
Anti-PID function			Optional	
AFCI protection			Optional	
<b>General data</b>				
Dimensions (W / H / D)			575/420/225mm	
Weight			30kg	
Operating temperature range			-25°C ... +60°C	
Nighttime power consumption			< 1W	
Topology			Transformerless	
Cooling			Smart air cooling	
Protection degree			IP66	
Relative humidity			0-100%	
Altitude			4000m	
DC connection			H4/MC4(Optional)	
AC connection			Cable gland+OT terminal	
Display			OLED+LED/WIFI+APP	
Interfaces: RS485 / USB / WIFI / GPRS / RF / LAN			Yes/Yes/Optional/Optional/Optional/Optional	
Warranty: 5 years / 10 years			Yes /Optional	

CE, VDE0126, Greece, EN50549, C10/C11, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, CEI0-16, N4105, TOR Erzeuger, G98/G99, G100, AS/NZS 3100, AS4777, UNE217001, UNE206007, PO12.2, KSC8565

\* For Belgium C10/C11 and VDE-AR-N4105, MID 30KTL3-X max. output power is limit to 30KVA.  
 \* The AC voltage range and frequency range may vary depending on specific country grid standard.  
 All specifications are subject to change without notice.

# MID 30~40K TL3-X



- The maximum efficiency is up to 98.8%
- 40% compact and lighter
- AFCI function ready
- Self-consumption monitoring
- Touch key and OLED display
- Type II SPD on DC and AC side

# MAC 40~70KTL3 -X LV/MV



- 3 MPPTs
- Smart diagnosis
- High efficiency up to 98.8%
- Local WIFI connection
- OLED display and touch button
- AC&DC type II SPD

## GROWATT · PRODUCT

Datasheet	MAC 40KTL3-X LV	MAC 50KTL3-X LV	MAC 50KTL3-X MV	MAC 60KTL3-X LV	MAC 60KTL3-X MV	MAC 70KTL3-X MV
<b>Input Data</b>						
Max.DC power	52000W	65000W	65000W	78000W	78000W	91000W
Max.DC voltage						
Start voltage						
Nominal voltage	600V	600V	700V	600V	700V	700V
PV voltage range				200V-1000V		
Full load DC voltage				600V-850V		
Max. input current per MPPT	37.5A/37.5A/37.5A	50A/37.5A/37.5A	50A/37.5A/37.5A	50A/50A/50A	50A/50A/50A	50A/50A/50A
Number of MPPT trackers/strings per MPPT tracker	3/3+3+3	3/4+3+3	3/4+3+3	3/4+4+4	3/4+4+4	3/4+4+4
<b>Output(AC)</b>						
Rated AC output power	40000W	50000W	50000W	60000W	60000W	70000W
Max. AC apparent power	44400VA	55500VA	55500VA	66600VA	66600VA	77700VA
AC nominal voltage	230V/400V	230V/400V	277V/480V	230V/400V	277V/480V	277V/480V
AC grid frequency				50/60 Hz		
Max. output current	64.4A	80.5A	66.9A	96.6A	80.2A	93.6A
Power factor				0.8leading ...0.8lagging		
THDI				<3%		
AC grid connection type				3W+N+PE		
<b>Efficiency</b>						
Max. efficiency				98.8%		
Euro-eta	98.4%	98.4%	98.4%	98.4%	98.5%	98.5%
MPPT efficiency				99.9%		
<b>Protection Devices</b>						
DC reverse polarity protection				Yes		
DC switch				Yes		
DC surge protection				Type II		
Ground fault monitoring				Yes		
output short circuit protection				Yes		
AC surge protection				Type II		
<b>General Data</b>						
Dimensions(W/H/D)				680/508/281mm		
weight				≤52kg		
operating temperature range				-25°C ... +60°C		
Relative Humidity				4000m		
Altitude				0-100%		
self-consumption				<1W		
Topology				Transformerless		
cooling concept				Smart cooling		
Environmental Protection Rating				IP65		
<b>Features</b>						
Display				OLED+LED/WIFI+APP		
Interfaces:USB/RS485/GPRS/WIFI/4G				Yes/Yes/Optional/Optional/Optional		
EN 61000-3, EN 61000-6, EN/IEC 62109-1, EN/IEC 62109-2						

# MAX 50~80K TL3 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 6/7 MPP trackers, ensures high yield of system.

- 6/7MPPTs
- Smart diagnosis
- High efficiency up to 99%
- Local WIFI configuration
- String monitoring
- AC&DC type II SPD
- AFCI protection

Datasheet	MAX 50KTL3 LV	MAX 60KTL3 LV	MAX 70KTL3 LV	MAX 80KTL3 LV
<b>Input data (DC)</b>				
Max. recommended PV power (for module STC)	75000W	90000W	105000W	120000W
Max.DC voltage	1100V			
Start voltage	250V			
Nominal voltage	585V	585V	600V	600V
MPPT voltage range	200V-1000V			
No. of MPP trackers	6	6	7	7
No. of PV strings per MPP tracker	2			
Max. input current per MPP tracker	26A			
Max. short-circuit current per MPP tracker	32A			
<b>Output data (AC)</b>				
AC nominal power	50000W	60000W	70000W	80000W
Max. AC apparent power	55500VA	66600VA	77700VA	88800VA
Nominal AC voltage(range*)	220V/380V, 230V/400V (340-440V)			
AC grid frequency(range*)	50/60 Hz (45-55Hz/55-65 Hz)			
Max. output current	80.5A	96.6A	112.7A	128.8A
Adjustable power factor	0.8leading ...0.8lagging			
THDI	<3%			
AC grid connection type	3W+N+PE			
<b>Efficiency</b>				
Max. efficiency	98.8%	98.8%	99%	99%
European efficiency	98.4%	98.4%	98.5%	98.5%
MPPT efficiency	99.9%			
<b>Protection devices</b>				
DC reverse polarity protection	Yes			
DC switch	Yes			
DC surge protection	Type II / Type II			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
Grid monitoring	Yes			
Anti-islanding protection	Yes			
Residual-current monitoring unit	Yes			
String monitoring	Yes			
AFCI protection	Yes			
<b>Dimensions (W / H / D)</b>				
Weight	82kg	82kg	86kg	86kg
Operating temperature range	-25°C ... +60°C			
Self-consumption	< 1W			
Topology	Transformerless			
Cooling	Smart air cooling			
Protection degree	IP65			
Relative humidity	0-100%			
Altitude	4000m			
DC connection	H4/MC4(Optional)			
AC connection	Cable gland+OT terminal			
Display	LED/WIFI+APP			
Interfaces: RS485 / USB /WIFI/ RF/GPRS	Yes/Yes /Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes /Optional			
CE , VDE0126 , Greece, EN50438, EN50549, C10/C11, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, CEI 0-16, N4105, DRRG, TOR Erzeuger G98/G99, G100, AS/NZS3100, AS4777, UNE217001, UNE206007, PO12.2, NRS 097-2-1, MEA , PEA , KSC8565				

\* The AC voltage range and frequency range may vary depending on specific country grid standard.  
All specifications are subject to change without notice.

# MAX 100~125K TL3-X LV



- 10 MPPTs fusefree design
- Smart I/V scan and diagnosis
- Intelligent string monitoring
- AC&DC type II SPD
- IP66 and C5 protection

## GROWATT · PRODUCT

Datasheet	MAX 100KTL3-X LV	MAX 110KTL3-X LV	MAX 120KTL3-X LV	MAX 125KTL3-X LV
<b>Input data (DC)</b>				
Max. DC voltage			1100V	
Start voltage			195V	
Nominal voltage			600V	
MPP voltage range			180V-1000V	
No. of MPP trackers			10	
No. of PV strings per MPP tracker			2	
Max. input current per MPP tracker			32A	
Max. short-circuit current per MPP tracker			40A	
<b>Output data (AC)</b>				
AC nominal power	100000W	110000W	120000W	125000W
Max. AC apparent power	110000VA	121000VA	132000VA	137500VA
Nominal AC voltage(range*)	230V/400V(340-440VAC)			
AC grid frequency (range*)	50/60 Hz(45-55Hz/55-65 Hz)			
Max. output current	158.8A	174.6A	190.5A	198.5A
Adjustable power factor	0.8leading ...0.8lagging			
THDI	<3%			
AC grid connection type	3W/N/PE			
<b>Efficiency</b>				
Max. efficiency			98.8%	
European efficiency	98.4%	98.5%	98.5%	98.5%
MPPT efficiency			99.9%	
<b>Protection devices</b>				
DC reverse polarity protection	Yes			
DC switch	Yes			
AC/DC surge protection	Type II / Type II			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
String detection	Yes			
Anti PID function	Opt			
Arc fault detection (AFCI)	Opt			
<b>General data</b>				
Dimensions (W / H / D)	970/640/345mm			
Weight	84kg			
Operating temperature range	-30°C ... +60°C			
Nighttime power consumption	< 1W			
Topology	Transformerless			
Cooling	Smart Cooling			
Protection degree	IP66			
Relative humidity	0-100%			
Altitude	4000m			
DC connection	H4/MC4 (Max.6mm <sup>2</sup> )			
AC connection	OT Terminal (Max. 240mm <sup>2</sup> )			
Display	LED/WIFI+APP			
Interfaces: RS485 / USB /PLC/GPRS/4G/WIFI	Yes/Yes/Optional/Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes /Optional			

CE, IEC62116, IEC61727, CQC, VDE0126, VFR2019, EN50549-1/2, C10/C11, UNE206007, G99  
CEI 0-21/0-16, N4105&N4110, UNE206006, MEA, PEA, KSC8565

\* The AC voltage range and frequency range may vary depending on specific country grid standard.  
All specifications are subject to change without notice.

# MAX 60~100K TL3 MV



- 6/7 MPPTs
- Smart diagnosis
- High efficiency up to 99%
- Local WIFI connection
- String monitoring
- AC&DC type II SPD
- AFCI protection optional
- Data storage up to 25 years
- DC side 2 in 1 connection enabled

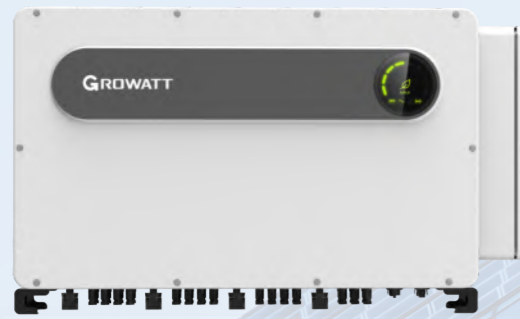
# NEW

Datasheet	MAX 60KTL3 MV	MAX 70KTL3 MV	MAX 80KTL3 MV	MAX 90KTL3 MV	MAX 100KTL3 MV
<b>Input data (DC)</b>					
Max. recommended PV power (for module STC)	90000W	105000W	120000W	130000W	130000W
Max. DC voltage	1100V				
Start voltage	250V				
Nominal voltage	700V	700V	700V	730V	730V
MPP voltage range	200V-1000V				
No. of MPP trackers	6	7	7	7	7
No. of PV strings per MPP tracker	2				
Max. input current per MPP tracker	26A				
Max. short-circuit current per MPP tracker	32A				
<b>Output data (AC)</b>					
AC nominal power	60000W	70000W	80000W	90000W	100000W
Max. AC apparent power	66600VA	77700VA	88800VA	100000VA	111000VA
Nominal AC voltage (range*)	277V/480V 425-540VAC	277V/480V 425-540VAC	277V/480V 425-540VAC	288V/500V 425-540VAC	288V/500V 425-540VAC
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)				
Max. output current	80.2A	93.6A	107.0A	115.7A	128.6A
Adjustable power factor	0.8leading ...0.8lagging				
THDi	<3%				
AC grid connection type	3W+PE				
<b>Efficiency</b>					
Max. efficiency	99.0%				
European efficiency	98.5%	98.5%	98.6%	98.6%	98.6%
MPPT efficiency	99.9%				
<b>Protection devices</b>					
DC reverse polarity protection	Yes				
DC switch	Yes				
AC/DC surge protection	Type II / Type II				
Insulation resistance monitoring	Yes				
AC short-circuit protection	Yes				
Ground fault monitoring	Yes				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Residual-current monitoring unit	Yes				
String monitoring	Yes				
AFCI protection	Optional				
Anti-PID function	Optional				
<b>General data</b>					
Dimensions (W / H / D)	860/600/300mm				
Weight	82kg	86kg	86kg	86kg	86kg
Operating temperature range	-25°C ... +60°C				
Nighttime power consumption	< 1W				
Topology	Transformerless				
Cooling	Smart air cooling				
Protection degree	IP65				
Relative humidity	0-100%				
Altitude	4000m				
DC connection	H4/MC4(Optional)				
AC connection	Cable gland+OT terminal				
Display	LED/WIFI+APP				
Interfaces: RS485 / USB /WIFI/ RF/GPRS	Yes/Yes /Optional/Optional/Optional				
Warranty: 5 years / 10 years	Yes /Optional				
CE VDE0126, Greece, EN50438, UTE C 15-712, IEC62116,IEC61727, IEC 60068, IEC 61683, N4105, G98/G99, G100					

\* For current models and certificates, please see [www.ginverter.com](http://www.ginverter.com).

\* The AC voltage range and frequency range may vary depending on specific country grid standard. All specifications are subject to change without notice.

# MAX 185~253K TL3-X HV



- Up to 15 MPPTs, fuse free design
- MAX efficiency 99%, high yield
- Smart I/V scan and diagnosis
- Intelligent string monitoring
- DC side 2 in 1 connection enabled
- Optional Anti-PID/Night SVG/AFCl function
- Data storage up to 25 years

# NEW

## GROWATT · PRODUCT

Datasheet	MAX 185KTL3-X HV	MAX 216KTL3-X HV	MAX 225KTL3-X HV	MAX 230KTL3-X HV
<b>Input data (DC)</b>				
Max. DC voltage	1500V			
Start voltage	500V			
Nominal voltage	1080V			
MPP voltage range	500V-1500V			
No. of MPP trackers	9	9	12	15
No. of PV strings per MPP tracker	2			
Max. input current per MPP tracker	30A			
Max. short-circuit current per MPP tracker	50A			
<b>Output data (AC)</b>				
AC nominal power	185kW	216kW	225kW	230kW
Max. AC apparent power	185KVA@30°C 175KVA@40°C 160KVA@50°C	216KVA@30°C 200KVA@40°C 192KVA@50°C	225KVA@45°C 220KVA@50°C	230KVA@45°C 220KVA@50°C
Nominal AC voltage (range*)	800V (640-920V)			
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)			
Max. output current	133.5A	155.9A	180.4A	182.6A
Adjustable power factor	0.8leading ...0.8lagging			
THDI	<3%			
AC grid connection type	3W+PE			
<b>Efficiency</b>				
Max. efficiency	99.0%			
European efficiency	98.7%	98.7%	98.7%	98.5%
MPPT efficiency	99.9%			
<b>Protection devices</b>				
DC reverse polarity protection	Yes			
DC switch	Yes			
AC/DC surge protection	Type II / Type II			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
Grid monitoring	Yes			
Anti-islanding protection	Yes			
Residual-current monitoring unit	Yes			
String monitoring	Yes			
AFCl protection	Optional			
Anti-PID function	Optional			
LVRT	Yes			
HVRT	Yes			
Night SVG	Optional			
<b>General data</b>				
Dimensions (W / H / D)	1070/675/340mm			
Weight	95kg	95kg	99kg	109kg
Operating temperature range	-30°C ... +60°C			
Nighttime power consumption	< 1W			
Topology	Transformerless			
Cooling	Smart air cooling			
Protection degree	IP66			
Relative humidity	0-100%			
Altitude	4000m			
DC connection	Staubli MC4/Amphenol UTX			
AC connection	OT Terminal connectors (Max. 300mm²)			
Display	LED/WIFI+APP			
Interfaces: RS485 / USB /PLC	Yes/Yes /Optional			
Warranty: 5 years / 10 years	Yes /Optional			

CE, IEC62116/61727, IEC60068/61683, IEC60529, PEA, MEA, VDE0126, Greece, NRS097-2-1:2017, CEA2019

\* The AC voltage range and frequency range may vary depending on specific country grid standard.  
All specifications are subject to change without notice.



# 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.

- VPP interface ready for energy trading
- Multiple workmodes configurable
- Smart load management via dry contact
- Remote smart O&M
- IP65 & Natural cooling



## GROWATT · PRODUCT

Datasheet	SPH 3000	SPH 3600	SPH 4000	SPH 4600	SPH 5000	SPH 6000
<b>DC input data</b>						
Max. recommended PV power	6600W	6600W	6600W	8000W	8000W	8000W
Start voltage				150V		
Max. PV voltage				550V		
PV voltage range				120V-550V		
MPPT voltage range/ nominal voltage				150V-550V /360V		
Max. input current of tracker A/B				12A/12A		
Number of MPP trackers / strings per MPP tracker				2/1		
<b>AC Output</b>						
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		
Nominal grid frequency				50/60Hz, ±5Hz		
Power factor at rated power				1		
Displacement power factor				0.8leading...0.8lagging		
THDI				<3%		
<b>AC output power(Backup)</b>						
Max. output power				3000W		
Rated AC output voltage				230Vac		
Rated AC output frequency				50/60Hz		
Automatic switchover time				<0.5S		
<b>Battery data</b>						
Battery voltage range				42~59V		
Max. charging voltage				58V		
Max charging and discharging current				66A		
Max charging and discharging power				3000W		
Battery type				Lithium /Lead-acid		
Capacity of battery				50-2000AH		
<b>Efficiency</b>						
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				99.9%		
<b>Protection devices</b>						
DC switch				Yes		
DC reverse polarity protection				Yes		
Battery reverse protection				Yes		
Output over current protection				Yes		
Output over voltage protection				Yes		
Ground fault monitoring				Yes		
Grid monitoring				Yes		
Integrated all-pole sensitive leakage				Yes		
<b>General Data</b>						
Dimensions (W / H / D)				450/560/180mm		
Weight				27kg		
Operating temperature range				-25°C ... +60°C		
Altitude				2000m		
Self-Consumption				< 3 W		
Topology(solar)				Transformerless		
Topology(battery)				HF transformer		
Cooling concept				Natural		
Environmental Protection Rating				IP65		
Relative humidity				100%		
DC connection				MC4/H4(Optional)		
AC connection				Connector		
Interfaces: RS232/RS485/CAN/USB				Yes		
Monitor : RF/WIFI/GPRS				Optional		
Display				LCD+LED		
Warranty: 10 years				Yes		

# SPH 3000~6000 TL BL-UP



- Smart load management via dry contact
- UPS function, 10ms transition
- Scalable system configuration
- VPP interface ready
- Remote smart O&M
- 1.5 DC/AC Ratio



Datasheet	SPH3000TL BL-UP	SPH3600TL BL-UP	SPH4000TL BL-UP	SPH4600TL BL-UP	SPH5000TL BL-UP	SPH6000TL BL-UP
<b>Input data(PV)</b>						
Max. recommended PV power (for module STC)	6000W	7200W	7600W	8200W	8600W	9000W
Max. DC voltage	550V					
Start voltage	120V					
MPP voltage range	120-550V/360V					
No. of MPP trackers	2					
No. of PV strings per MPP tracker	1					
Max. input current per MPP tracker	13.5A					
Max. short-circuit current per MPP tracker	16.5A					
<b>Output data(AC)</b>						
AC nominal power	3000W	3680W	4000W	4600W	5000W	6000W
Max. AC apparent power	3000VA	3680VA	4000VA	4600VA	5000VA	6000VA
Nominal AC voltage (range)	230V/ (180Vac-270Vac)					
AC grid frequency (range)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Max. output current	16A	16A	22A	22A	27A	27A
Adjustable power factor	0.8leading...0.8lagging					
THDi	<3%					
AC grid connection type	Single phase					
<b>Battery data (DC)</b>						
Battery voltage range	42~59V					
Max charging and discharging current	66A	75A	75A	75A	75A	75A
Continuous charging and discharging power	3000W	3680W	3680W	3680W	3680W	3680VA
Type of battery	Lithium /Lead-acid					
<b>Backup power(AC)</b>						
Max. AC output power	3000VA	3680VA	3680VA	3680VA	3680VA	6000VA
Max. output current	16A					
Nominal AC output voltage	230Vac					
Nominal AC output frequency	50/60HZ					
THDv	<3%					
Switch time	<10ms					
<b>Efficiency</b>						
MAX. efficiency	97.20%	97.20%	97.30%	97.40%	97.50%	97.60%
European efficiency	97%	97%	97.10%	97.10%	97.20%	97.20%
MPPT efficiency	≥99.5%					
<b>Protection devices</b>						
DC switch	Yes					
DC reverse polarity protection	Yes					
AC/DC surge protection	Yes					
Battery reverse protection	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Anti-islanding protection	Yes					
Residual-current monitoring unit	Yes					
Insulation resistance monitoring	Yes					
<b>General data</b>						
Dimensions (W / H / D)	450/560/180mm					
Weight	31kg					
Operating temperature range	-25°C ... +60°C					
Nighttime power consumption	< 10 W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0~100%					
Altitude	2000m					
DC connection	OT Terminal					
AC connection	Connector					
Display	LCD+LED					
Interfaces:RS485/CAN/USB	Yes					
Monitor : RF/MFI/GPRS	Optional					
Warranty: 5 years / 10 years	Yes/Optional					

# SPA 1000~3000 TL BL



- Supports retrofit & new system
- Compatible with single/three phase grid
- Multiple workmodes configurable
- VPP interface ready for energy trading
- Remote smart O&M
- IP65 & Natural cooling

Datasheet	SPA1000TL BL	SPA2000TL BL	SPA3000TL BL
<b>Output data(AC)</b>			
AC nominal power	1000W	2000W	3000W
Max. AC apparent power	1000VA	2000VA	3000VA
Nominal AC voltage (range*)	230V (180V-270V)		
AC grid frequency (range*)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)		
Max. output current	6A	10A	16A
Adjustable power factor	0.8leading...0.8lagging		
THDi	<3%		
AC grid connection type	Single phase		
<b>Battery data (DC)</b>			
Battery voltage range	42~59V		
Max charging and discharging current	24A	44A	66A
Continuous charging and discharging power	1000W	2000W	3000W
Type of battery	Lithium /Lead-acid		
<b>Backup power(AC)</b>			
Max. AC output power	1000W	2000W	3000W
Max. AC apparent power	1000VA	2000VA	3000VA
Max. output current	6A	10A	16A
Nominal AC output voltage	230Vac		
Nominal AC output frequency	50/60HZ		
THDv	<3%		
Switch time	0.5S		
<b>Protection devices</b>			
AC surge protection	Yes		
Battery reverse protection	Yes		
AC short-circuit protection	Yes		
Ground fault monitoring	Yes		
Grid monitoring	Yes		
Anti-islanding protection	Yes		
Residual-current monitoring unit	Yes		
Insulation resistance monitoring	Yes		
<b>General data</b>			
Dimensions (W / H / D)	428/458/180mm		
Weight	17kg		
Operating temperature range	-25°C ... +60°C		
Nighttime power consumption	<4W		
Topology(solar)	Transformerless		
Topology(battery)	HF transformer		
Cooling	Natural		
Protection degree	IP65		
Relative humidity	0~100%		
Altitude	2000m		
AC connection	Connector		
Display	LCD+LED		
Interfaces: RS232/RS485/CAN/USB	Yes		
Monitor : RF/WIFI/GPRS	Optional		
Warranty: 5 years / 10 years	Yes/Optional		

# SPH 4000~10000 TL3 BH



- Wide battery voltage 100-550V
- VPP interface ready for energy trading
- Multiple workmodes configurable
- IP65 & Natural cooling
- Remote smart O&M
- DC/AC type II SPD

## GROWATT · PRODUCT

Datasheet	SPH 4000TL3 BH	SPH 5000TL3 BH	SPH 6000TL3 BH	SPH 7000TL3 BH	SPH 8000TL3 BH	SPH 10000TL3 BH
<b>Input data(PV)</b>						
Max. recommended PV power (for module STC)	5200W	6500W	7800W	9100W	10400W	13000W
Max. DC voltage	1000					
Start voltage	160V					
MPP voltage range	160V-1000V / 600V					
No. of MPP trackers	2					
No. of PV strings per MPP tracker	1					
Max. input current per MPP tracker	12A					
Max. short-circuit current per MPP tracker	15A					
<b>Output data(AC)</b>						
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Nominal AC voltage (range*)	230V/400V (310~476V)					
AC grid frequency (range*)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Adjustable power factor	0.8leading...0.8lagging					
THDI	<3%					
AC grid connection type	3W+N+PE					
<b>Battery data (DC)</b>						
Battery voltage range	100~550V					
Max charging and discharging current	25A					
Continuous charging and discharging power	4000W	5000W	6000W	7000W	8000W	10000W
Type of battery	Lithium battery					
<b>Backup power(AC)</b>						
Max. AC output power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Nominal AC output voltage	230V/400V					
Nominal AC output frequency	50/60HZ					
THDv	<3%					
Switch time	<0.5S					
<b>Efficiency</b>						
MAX. efficiency	97.6%	97.8%	98.0%	98.2%	98.2%	98.2%
European efficiency	97.0%	97.2%	97.3%	97.4%	97.4%	97.5%
<b>Protection devices</b>						
DC switch	Yes					
DC reverse polarity protection	Yes					
AC/DC surge protection	Type II					
Battery reverse protection	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Anti-islanding protection	Yes					
Residual-current monitoring unit	Yes					
Insulation resistance monitoring	Yes					
<b>General data</b>						
Dimensions (W / H / D)	505/453/198mm					
Weight	28kg					
Operating temperature range	-25 °C ... +60 °C					
Nighttime power consumption	< 13W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0~100%					
Altitude	3000m					
DC connection	H4 / MC4 (Optional)					
AC connection	Connector					
Display	LCD+LED					
Interfaces: RS232/RS485/CAN/USB	Yes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty:10 years	Yes					

IEC 61000, IEC 62109, IEC 62040, VDE-AR-N 4105, VDE 0126, UTE C 15-712, En50549, CEI 0-21IEC62116, IEC61727, AS/NZS 4777, G98, IEC 62477, C10/11, UNE217001, UNE206007, PO12.2, TOR Erzeuger

# SPH 4000~10000 TL3 BH-UP



- 100% three-phase imbalance output
- Smart phase-level power export limitation
- Wide battery voltage 100-550V
- UPS function, 10ms transition
- Scalable system configuration
- VPP interface ready
- DC/AC type II SPD
- 1.5 DC/AC Ratio

## GROWATT · PRODUCT

Datasheet	SPH 4000TL3 BH-UP	SPH 5000TL3 BH-UP	SPH 6000TL3 BH-UP	SPH 7000TL3 BH-UP	SPH 8000TL3 BH-UP	SPH 10000TL3 BH-UP
<b>Input data(PV)</b>						
Max. recommended PV power (for module STC)	6000W	7500W	9000W	10500W	12000W	15000W
Max. DC voltage	1000					
Start voltage	120V					
MPP voltage range	120V-1000V/600V					
No. of MPP trackers	2					
No. of PV strings per MPP tracker	1					
Max. input current per MPP tracker	13.5A					
Max. short-circuit current per MPP tracker	16.9A					
<b>Output data(AC)</b>						
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Nominal AC voltage (range*)	230V/400V (310~476V)					
AC grid frequency (range)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Adjustable power factor	0.8leading...0.8lagging					
THDI	<3%					
AC grid connection type	3W+N+PE					
<b>Battery data (DC)</b>						
Battery voltage range	100~550V					
Max charging and discharging current	25A					
Continuous charging and discharging power	4000W	5000W	6000W	7000W	8000W	10000W
Type of battery	Lithium battery					
<b>Backup power(AC)</b>						
Max. AC output power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Nominal AC output voltage	230V/400V					
Nominal AC output frequency	50/60HZ					
THDv	<3%					
Switch time	<10ms					
<b>Efficiency</b>						
MAX. efficiency	97.6%	97.8%	98.0%	98.2%	98.2%	98.2%
European efficiency	97.0%	97.2%	97.3%	97.4%	97.4%	97.5%
<b>Protection devices</b>						
DC switch	Yes					
DC reverse polarity protection	Yes					
AC/DC surge protection	Type II					
Battery reverse protection	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Anti-islanding protection	Yes					
Residual-current monitoring unit	Yes					
Insulation resistance monitoring	Yes					
<b>General data</b>						
Dimensions (W / H / D)	505/453/198mm					
Weight	30kg					
Operating temperature range	-25 °C ... +60 °C					
Nighttime power consumption	<13W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0~100%					
Altitude	3000m					
DC connection	H4 / MC4 (Optional)					
AC connection	Connector					
Display	LCD+LED					
Interfaces: RS485/CAN/USB	Yes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty: 5 years / 10 years	Yes / Optional					

CE, IEC62109, IEC 62040, VDE-AR-N 4105, VDE 0126, UTE C 15-712, C10/C11 • EN50549, CBI 0-21, CBI 0-16, IEC62116, IEC61727, AS/NZS 4777, G98, TOR Erzeuger

\* The AC Voltage Range may vary depending on specific country grid standard.

# SPA 4000~10000 TL3 BH



- Supports retrofit & new system
- Wide battery voltage 100-550V
- VPP interface ready for energy trading
- Multiple workmodes configurable
- Remote smart O&M
- IP65 & Natural cooling

Datasheet	SPA 4000TL3 BH	SPA 5000TL3 BH	SPA 6000TL3 BH	SPA 7000TL3 BH	SPA 8000TL3 BH	SPA 10000TL3 BH
<b>Output data(AC)</b>						
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Nominal AC voltage(range*)	230V/400V (310~476V)					
AC grid frequency(range*)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Adjustable power factor	0.8leading...0.8lagging					
THDi	<3%					
AC grid connection type	3W+N+PE					
<b>Output data(AC)</b>						
Battery voltage range	100~550V					
Max charging and discharging current	25A					
Continuous charging and discharging power	4000W	5000W	6000W	7000W	8000W	10000W
Type of battery	Lithium battery					
<b>Backup power(AC)</b>						
Max. AC output power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Nominal AC output voltage	230V/400V					
Nominal AC output frequency	50/60HZ					
THDv	<3%					
Switch time	<0.5S					
<b>Protection devices</b>						
AC surge protection	Type II					
Battery reverse protection	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Anti-islanding protection	Yes					
Residual-current monitoring unit	Yes					
Insulation resistance monitoring	Yes					
<b>General data</b>						
Dimensions (W / H / D)	505/453/198mm					
Weight	28kg					
Operating temperature range	-25 °C ... +60 °C					
Nighttime power consumption	<13W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0~100%					
Altitude	3000m					
AC connection	Connector					
Display	LCD+LED					
Interfaces: RS232/RS485/CAN/USB	Yes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty:10 years	Yes					
CE, IEC62109, G98, VDE0126-1-1, VDE-AR-N4105, CEI 0-21, IEC62116&IEC61727, EN50438, EN50549, AS4777, AS/NZS 3100, C10/11, TOR Erzeuger						

# MIN 2500~6000 TL-XH



- Max. efficiency 98.4%
- Dual MPP trackers
- Type II SPD on DC side
- Active Arcing Protection
- Battery ready, future proof
- 24h self-consumption monitoring

## GROWATT · PRODUCT

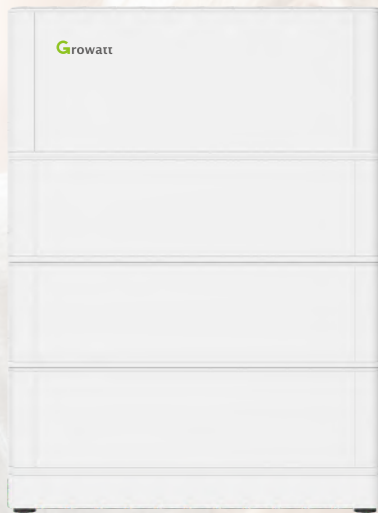
Datasheet	MIN 2500TL-XH	MIN 3000TL-XH	MIN 3600TL-XH	MIN 4200TL-XH	MIN 4600TL-XH	MIN 5000TL-XH	MIN 6000TL-XH
<b>Input data (DC)</b>							
Max. recommended PV power (for module STC)	5000W	6000W	7200W	8400W	9200W	10000W	10000W
Max. DC voltage	500V	500V	550V	550V	550V	550V	550V
Start voltage				100V			
Nominal voltage				360V			
MPP voltage range	70V-500V	70V-500V	70V-550V	70V-550V	70V-550V	70V-550V	70V-550V
No. of MPP trackers/strings per MPP tracker				2/1			
Max. input current per MPP tracker				13.5A			
Max. short-circuit current per MPP trackers				16.9A			
<b>Input data (DC battery)</b>							
Compatible battery	ARK XH Battery System (5.12kWh~17.9kWh)						
Operating voltage range	360-500V			360-550V			
Max.operating current				17A			
Max.charge power				6000W			
Max.discharge power	2500W	3000W	3600W	4200W	4600W	5000W	6000W
<b>Output data (AC)</b>							
AC nominal power	2500W	3000W	3600W	4200W	4600W	5000W	6000W
Max. AC apparent power	2500VA	3000VA	3600VA	4200VA	4600VA	5000VA	6000VA
Nominal AC voltage(range*)	230V (180-280V)						
AC grid frequency(range*)	50/60 Hz (45-55Hz/55-65 Hz)						
Max. output current	11.3A	13.6A	16A	19A	20.9A	22.7A	27.2A
Adjustable power factor	0.8leading...0.8lagging						
THDI	<3%						
AC grid connection type	Single phase						
<b>Output data (Backup*)</b>							
Max. apparent power	2500VA	3000VA	3600VA	4200VA	4600VA	5000VA	6000VA
Nominal AC voltage	230V						
AC grid frequency	50/60Hz						
<b>Efficiency</b>							
Max. efficiency	98.2%	98.2%	98.2%	98.4%	98.4%	98.4%	98.4%
European efficiency	97.1%	97.1%	97.2%	97.2%	97.5%	97.5%	97.5%
MPPT efficiency	99.9%						
<b>Protection devices</b>							
DC reverse polarity protection	Yes						
DC switch	Yes						
DC/AC surge protection	Type II/Type III						
Insulation resistance monitoring	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Anti-islanding protection	Yes						
Residual-current monitoring unit	Yes						
AFCI protection	Yes						
<b>General data</b>							
Dimensions (W / H / D)	375/350/160mm						
Weight	10.8kg						
Operating temperature range	-25°C ... +60°C						
Altitude	4000m						
Self-Consumption night	< 10W						
Topology	Transformerless						
Cooling	Natural convection						
Protection degree	IP65						
Relative humidity	0%~100%						
DC connection	H4/MC4(Optional)						
AC connection	Connector						
Display	OLED+LED/WIFI+APP						
Interfaces: RS485 / USB/WI-FI/ GPRS/ RF/LAN	Yes/Yes/Optional/Optional/Optional /Optional						
Warranty:10 years	Yes						

CE, IEC62109, AS/NZS 4777.2, CEI 0-21, VDE-AR-N 4105, VDE 0126-1-1, UTE C 15-712-1, EN 50549, IEC 62116, IEC 61727, G98/G99

\* The AC voltage and frequency range may vary depending on specific country grid standard. All specifications are subject to change without notice.

\* Backup power function need a Backup Box accessory.

# ARK XH Battery System



- Compatible with MIN-XH series inverter
- Flexible capacity options, 5.12kWh to 17.92kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- Long lifespan, 10 years warranty
- Remote firmware upgrade

## GROWATT · PRODUCT

Datasheet	ARK 5.1XH	ARK 7.6XH	ARK 10.2XH	ARK 12.8XH	ARK 15.3XH	ARK 17.9XH
System Demo						
Power module	BDC 95045-A1					
Number of power modules	1					
Battery Module	ARK 2.5H-A1 (2.56kWh, 51.2V, 28kg)					
Number of Modules in Series	2	3	4	5	6	7
Energy Capacity	5.12kWh	7.68kWh	10.24kWh	12.8kWh	15.36kWh	17.92kWh
Usable Capacity	4.6kWh	6.9kWh	9.21kWh	11.52kWh	13.81kWh	16.12kWh
Max. output power*1	2.5kW	3.75kW	5kW	6.25kW	7.5kW	8.75kW
Peak output power	5kW, 10s	7.5kW, 10s	10kW, 10s	12.5kW, 10s	15kW, 10s	17.5kW, 10s
Dimension (W/D/H)*2	650/260/630mm	650/260/815mm	650/260/1000mm	650/260/1185mm	650/260/1370mm	650/260/1555mm
Weight	71kg	99kg	127kg	155kg	183kg	211kg
Nominal voltage (single phase system)	360V	360V	360V	360V	380V	440V
Operating voltage range (single phase system)*3	360V-550V	360V-550V	360V-550V	360V-550V	380V-550V	440V-550V
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)					
IP Protection	IP65					
Installation	Wall-mounted or Floor installation*4					
Operation Temperature	-10°C ... -50°C*5					
Relative humidity	5%~95%					
Cooling	Natural					
Warranty	10 years					
<b>Power Module</b>	<b>BDC 95045-A1</b>					
Dimension(W/D/H)	650/260/260mm					
Weight	15kg					
Communication Port	CAN/RS485					
BAT voltage range	90V-400V					
Power module output voltage	360V-550V					
Maximum BAT current	25A					
Peak BAT current	50A					
Monitoring Parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature					
<b>Certification &amp; Licensing</b>	IEC62619(Cell&Pack)/CE/CEC/RCM/UN38.3					

\*1 Depend on the max. battery charge/discharge power of the inverter.

\*2 Include power module (BDC 95045-A1)

\*3 Single phase energy storage system supports 2~7pcs battery modules in series

\*4 Floor installation requires extra base (W/D/H=650/260/80 mm)

\*5 The performance will be limited when the temperature is below 10°C and above 45°C

\*ARK series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU model ARK battery.



# ARK LV Battery System



- Flexible capacity options, 2.56kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- Remote firmware upgrade
- Long lifespan, 10 years warranty

## GROWATT · PRODUCT

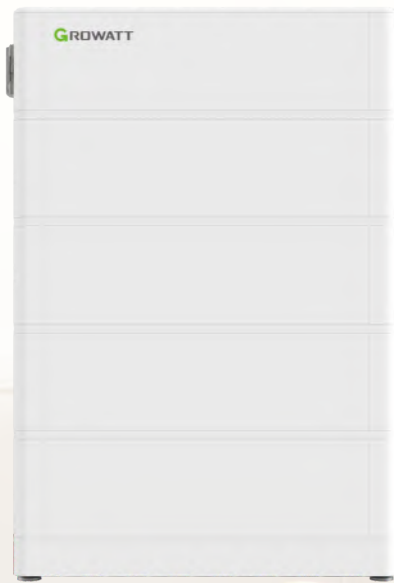
Datasheet	ARK 2.5L	ARK 5.1L	ARK 7.6L	ARK 10.2L	ARK 12.8L	ARK 15.3L	ARK 17.9L	ARK 20.4L	ARK 23.0L	ARK 25.6L
System Demo										
Battery Module	ARK 2.5L-A1 (2.56kWh, 51.2V, 28kg)									
Number of Modules	1	2	3	4	5	6	7	8	9	10
Energy Capacity	2.56kWh	5.12kWh	7.68kWh	10.24kWh	12.8kWh	15.35kWh	17.92kWh	20.48kWh	23.04kWh	25.64kWh
Usable Capacity	2.30kWh	4.6kWh	6.9kWh	9.21kWh	11.52kWh	13.81kWh	16.12kWh	18.43kWh	20.73kWh	23.04kWh
Dimension (W/D/H)	650/260/185mm	650/260/365mm	650/260/545mm	650/260/725mm	650/260/905mm	650/260/1085mm	650/260/1265mm	650/260/1445mm	650/260/1625mm	650/260/1805mm
Weight	28kg	56kg	84kg	112kg	140kg	168kg	196kg	224kg	252kg	280kg
Standard Charge/Discharge Current	25A	50A	75A	100A	100A	100A	100A	100A	100A	100A
<b>General</b>										
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)									
Nominal Voltage	51.2V									
Operating voltage Range	47.2 - 56.8V									
IP Protection	IP65									
Installation	Wall-mounted or Floor installation* <sup>1</sup>									
Operation Temperature	-10~50°C* <sup>2</sup>									
<b>Features</b>										
BMS Monitoring Parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature measurement									
Communication Port	CAN									
Warranty	10 Years									
<b>Certification</b>										
IEC62619 (Cell&Pack), CE, CEC, RCM, UN38.3										

\*1 Floor installation requires extra base (W/D/H=650/260/80 mm)

\*2 The performance will be limited when the temperature is below 10°C or above 45°C

\*ARK series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU model ARK battery.

# ARK HV Battery System



- Flexible capacity options, 7.68kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- Remote firmware upgrade
- Long lifespan, 10 years warranty



## GROWATT · PRODUCT

Datasheet	ARK 7.6H	ARK 10.2H	ARK 12.8H	ARK 15.3H	ARK 17.9H	ARK 20.4H	ARK 23.0H	ARK 25.6H
System Demo								
Battery Module	ARK 2.5H-A1 (2.56kWh, 51.2V, 28kg)							
Number of Modules	3	4	5	6	7	8	9	10
Energy Capacity	7.68kWh	10.24kWh	12.8kWh	15.36kWh	17.92kWh	20.48kWh	23.04kWh	25.6kWh
Usable Capacity	6.9kWh	9.21kWh	11.52kWh	13.81kWh	16.12kWh	18.43kWh	20.73kWh	23.04kWh
Nominal Voltage	153.6V	204.8V	256V	307.2V	358.4V	409.6V	460.8V	512V
Operating Voltage Range	141.6~170.4V	188.8~227.2V	236-284V	283.2~340.8V	330.4~397.6V	377.6~454.4V	424.8~511.2V	472~568V
Dimension (W/D/H)*1	650/260/725mm	650/260/905mm	650/260/1085mm	650/260/1265mm	650/260/1445mm	650/260/1625mm	650/260/1805mm	650/260/1985mm
Weight	91kg	118kg	145kg	172kg	199kg	226kg	253kg	280kg
<b>General</b>								
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)							
Standard Charge/Discharge Current	25A/0.5C							
IP Protection	IP65							
Installation	Wall-mounted or Floor installation*2							
Operation Temperature	-10~50°C*3							
Warranty	10Years							
<b>BMS Controller</b>								
<b>HVC 60050-A1</b>								
Weight	8kg							
Communication Port	CAN							
Dimension(W/D/H)	650/260/185mm							
BMS Monitoring Parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature measurement							
<b>Certification &amp; Licensing</b>								
IEC62619(Cell&Pack), CE, CEC, RCM, UN38.3								

\*1 Include BMS controller

\*2 Floor installation requires extra base (W/D/H=650/260/80mm)

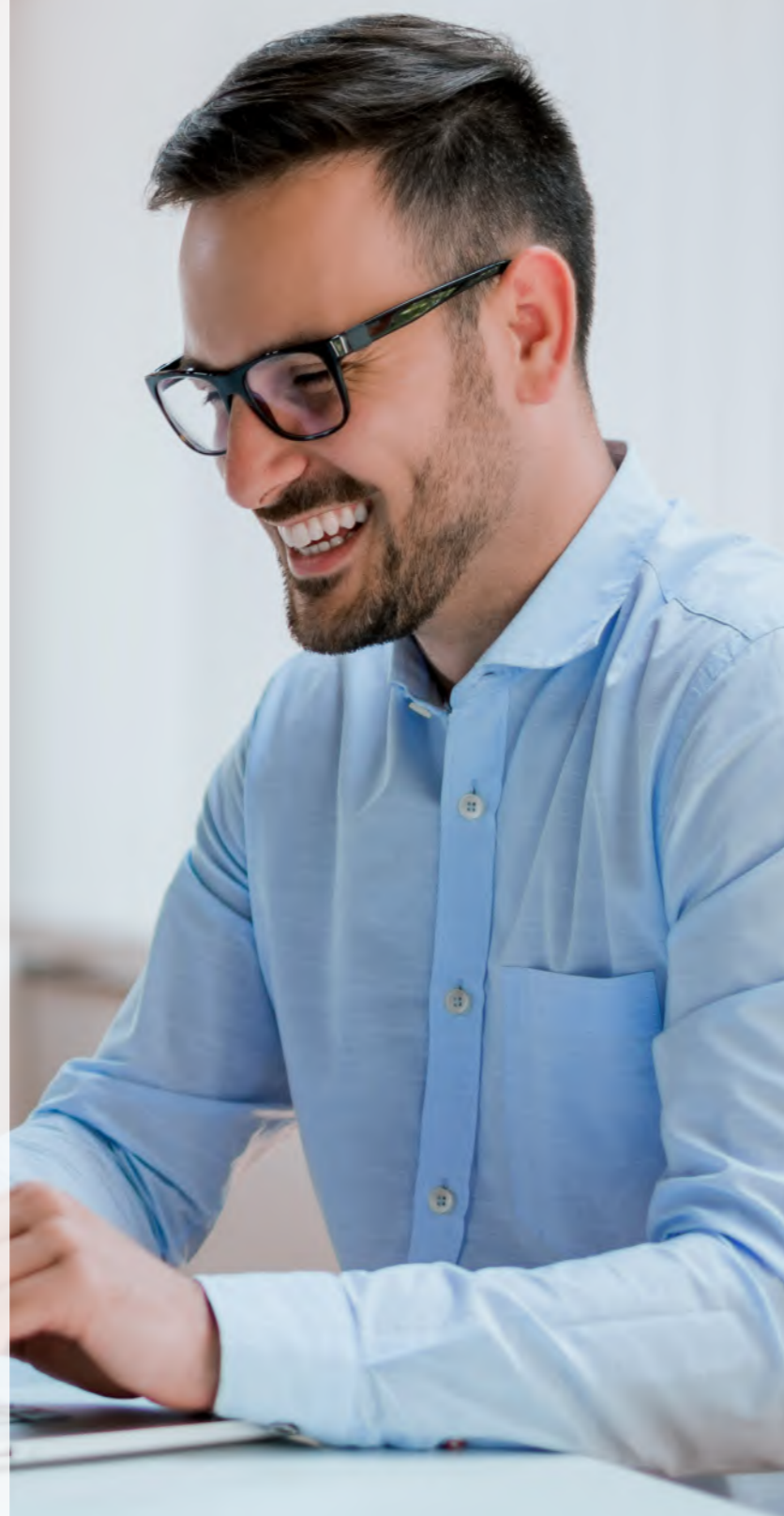
\*3 The performance will be limited when the temperature is below 10°C or above 45°C

\*ARK series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU model ARK battery.

# Growatt ShineWiFi-X



- Cable free, easy installation
- USB communication port
- Build-in storage, 1 month data
- Online monitoring and maintenance



## GROWATT · PRODUCT

Datasheet	ShineWiFi-X
<b>Wireless Parameters</b>	
Wireless standard	802.11 b/g/n
Frequency range	2.4G--2.5G (2412M--2484M)
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
<b>Hardware Parameters</b>	
Data interface	USB
Operation voltage	5V(+/-5%)
Max.power consumption@transmit	1.2W
Display	LED
<b>Application Parameters</b>	
Supported servers	ShineServer
Inverter communication	USB (Modbus RTU protocol)
Server communication	TCP (Modbus TCP protocol)
Support network	2.4G WiFi
Max. communication range	50m
Configure type	APP configure
Data transfer interval	5 Minutes
Default server URL	server.growatt.com
<b>General data</b>	
Dimensions(L/W/H)	135/79/29mm
Weight	60g
Operating temperature range	-20°C ~ +65 °C
CE	

# Growatt ShineGPRS-X



- Plug and play
- built-in storage upto one month data
- Remotely online monitoring and maintenance
- support more than 100 telecommunication

## GROWATT · PRODUCT

Datasheet	ShineGPRS-X
<b>Wireless parameters</b>	
Network type	GSM/GPRS
GSM/GPRS/EDGE frequency range	850/900/1800/1900MHZ
Transmitting power	GSM850/GSM900: 2W DCS1800/PCS1900: 1W
<b>Hardware parameters</b>	
Serial port speed	9600bps/115200bps
Operating voltage	5V (+/-5%)
Operating current	2A
Rating power	5W
Operating temperature	-30°C ... +65°C
Ingress protection	IP65
<b>Application parameters</b>	
Servers	ShineServer
Communication with Inverter	USB (Modbus RTU protocol)
Communication with server	TCP (Modbus TCP protocol)
Configuration interface	APP
SIM type	regular SIM card
Uploading interval	5 Mins(1-15 adjustable)
Default server IP	server.growatt.com
<b>General data</b>	
Dimensions(L/H/W)mm	122/32/47
Weight	70g
Language	English,Chinese
Warranty	1 year

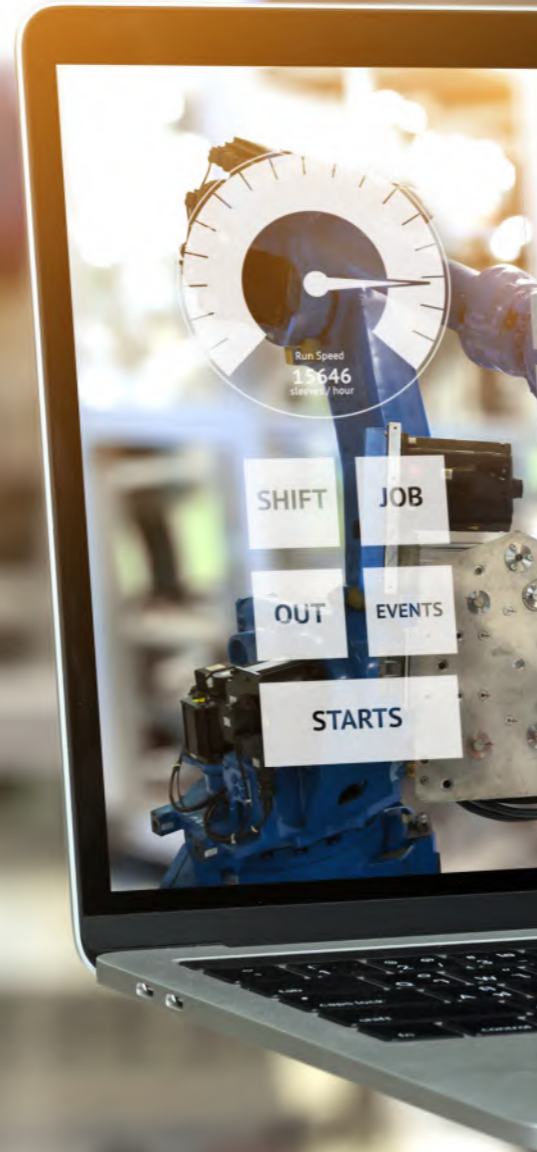
CE

# Growatt ShineMaster



Cost effective solution for commercial and utility grade solar plants, supports up to 64 inverters connected in RS485 daisy chain, storage port inbuilt supports flexible storage.

- Local webserver for easy configuration
- Supports export control with meters
- Up to 64 inverters connection
- Multi-function and high performance



## GROWATT · PRODUCT

Datasheet	ShineMaster	ShineMaster 4G
<b>Hardware Parameter</b>		
Power adapter	Input: 100-240V, 50/60Hz AC Output 5V(+/-15%), 1A DC	
Power consumption	2.5W	
<b>Application Parameters</b>		
Max. communication range	500m	
Communication with inverters	RS485 (Modbus RTU protocol)	
Communication with server	TCP(Modbus TCP protocol)	
Support network	Ethernet	4G
Data transfer interval	5 Minutes	
Default server URL	server.growatt.com	
Supported servers	ShineServer	
<b>General Data</b>		
Dimensions(W/H/D)	130/84/25mm	
Weight	180g	
Language	English	
Mounting options	Wall-mounted	
Ambient temperature range	-30°C ~ +60°C	
Degree of protection	IP30	
Warranty	1 year	
CE		

# Smart Energy Manager



- System self-consumption monitoring
- Export limitation for commercial projects
- Support online monitoring and online service
- Flexible CTs for different project size
- RS485 and Ethernet connection

## GROWATT · PRODUCT

Datasheet	Smart Energy Manager				
System Size	100KW	300KW	600KW	1MW	2MW
<b>Meter data</b>					
Normal voltage	230/400Vac				
Voltage range(L-L)	180-540Vac				
Grid connection	3W+N+PE				
Normal frequency	50/60 Hz				
Frequency range	45~55Hz/55-65 Hz				
<b>CT data</b>					
Max. input current (CT second side)	5A				
Max.current ( CT detection)	250A	600A	1200A	2000A	4000A
Accuracy ( @ rated CT current)	0.5	0.5	0.5	0.5	0.2
<b>Communication</b>					
RS485	Yes				
Ethernet	Yes				
Max.inverter number	32				
Communication distance	Rs485: 500m Internet cable: 100m				
<b>General Data</b>					
Dimensions (W/H/D)	350/330/107mm				
Weight	6kg				
Operation temperature range	-25°C ... +60°C				
Cooling concept	Natural Cooling				
Environmental Protection Rating	IP65				
Relative humidity	0~100%				
Altitude	2000m				
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 ◀



# UKRAINE 5MW SOLAR PLANT

▶ 5MW

▶ Ukraine

▶ MAX 50KTL3 LV





# VIETNAM 3MW SOLAR PLANT

- ▶ 3MW
- ▶ Vietnam
- ▶ MAX 80KTL3 LV



# THAILAND 134MW SOLAR PLANT

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



# THAILAND 600KW SOLAR PLANT

- ▶ 600KW
- ▶ Thailand
- ▶ MAX 60KTL3 LV



# VIET NAM 60MW SOLAR PLANT

- ▶ 60MW
- ▶ Dak Nong province, Viet Nam
- ▶ MAX80KTL3 LV (11pcs/1MW)



# NETHERLANDS 500KW SOLAR SYSTEM

- ▶ 500KW
- ▶ Netherlands
- ▶ MAX 60KTL3 LV  
MAX 70KTL3 LV



# NETHERLANDS 500KW SOLAR SYSTEM

- 500KW ◀
- Netherlands ◀
- MAX 60KTL3 LV ◀



# NETHERLANDS 200KW SOLAR PLANT

- ▶ 200KW
- ▶ Netherlands
- ▶ MAX 60KTL3 LV



# DENMARK HOME STORAGE SYSTEM



- ▶ 3.6kW
- ▶ Denmark
- ▶ SPH6000+GBLI6531 Battery



# HUNGARY HOME SOLAR SYSTEM

- ▶ 5kW
- ▶ Hungary
- ▶ MIN 5000TL-XE



- ▶ 3.6kW
- ▶ Italy
- ▶ MIN 3600TL-XE

