

P O W E R
- I N G ●
T O M O -
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GR-CA-006-02

Smart
Photovoltaic
Inverter
Series

2022

GROWATT

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.



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COMPANY PROFILE

Growatt, a global leader of smart energy solutions, provides residential, commercial and utility-scale PV inverters, energy storage systems, microgrid systems and smart energy management solutions. The company is dedicated to becoming the world's largest supplier of smart energy solutions.



Founded in 2010, Growatt has an advanced manufacturing plant in Huizhou, China. The facility covers an area of 200,000 square meters and has an annual output of 20GW. Over the years, Growatt has built strong and experienced local teams in key solar markets with an extensive service network of 23 offices and warehouses worldwide. To promote the use of clean energy, Growatt is committed to providing comprehensive and professional training in the technologies of solar PV, battery storage, and smart energy management.

Dedicated to technology and product innovations, Growatt invests heavily in research and development. The R&D team at Growatt has more than 600 professional engineers, most of whom have over 15 years of experience in the industry. Growatt has received 'All Quality Matters' awards by TÜV Rheinland for its commercial and industrial (C&I) inverter - MAX series and residential storage battery - ARK series, both of which achieve first-rate performance in the organization's PVE Test Program.

According to IHS Markit, Growatt is one of the world's top 10 inverter brands. Having its strong competitive advantages in distributed solar, the company is the world's No.1 residential inverter supplier and it also ranks among the world's top 5 suppliers of string inverters for C&I solar projects. By the end of 2021, Growatt had shipped over 3.8 million inverters to more than 100 countries.

2022

2010



3,800,000+

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 2020 according to the reports released by Wood Mackenzie and IHS Markit.



WORLD
NO. 1

Growatt became the world's No.1 residential inverter supplier in 2020 according to latest PV Inverter Market Tracker report released by IHS Markit.



WORLD
TOP 5

For **commercial** inverter shipments in 2020, Growatt was one of the global top 5 suppliers according to IHS Markit.



ALL QUALITY MATTERS AWARD



At Growatt, the team is dedicated to product innovation and focuses on product quality. Growatt has received All Quality Matters Awards by TUV Rheinland for its C&I inverter - MAX series and residential storage battery - ARK series, both of which achieve first-rate performance in TUV Rheinland's PVE Test Program.

TOP BRAND PV INVERTERS



Growatt has consolidated its leading brand positions across global solar markets. From 2018 to 2021, Growatt has been awarded TOP BRAND PV INVERTERS by EUPD Research in Europe, Australia, South Africa, Middle East and North Africa, Poland, Netherlands, Belgium, Switzerland, Hungary and Scandinavia.

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

Our R&D team has achieved more than 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



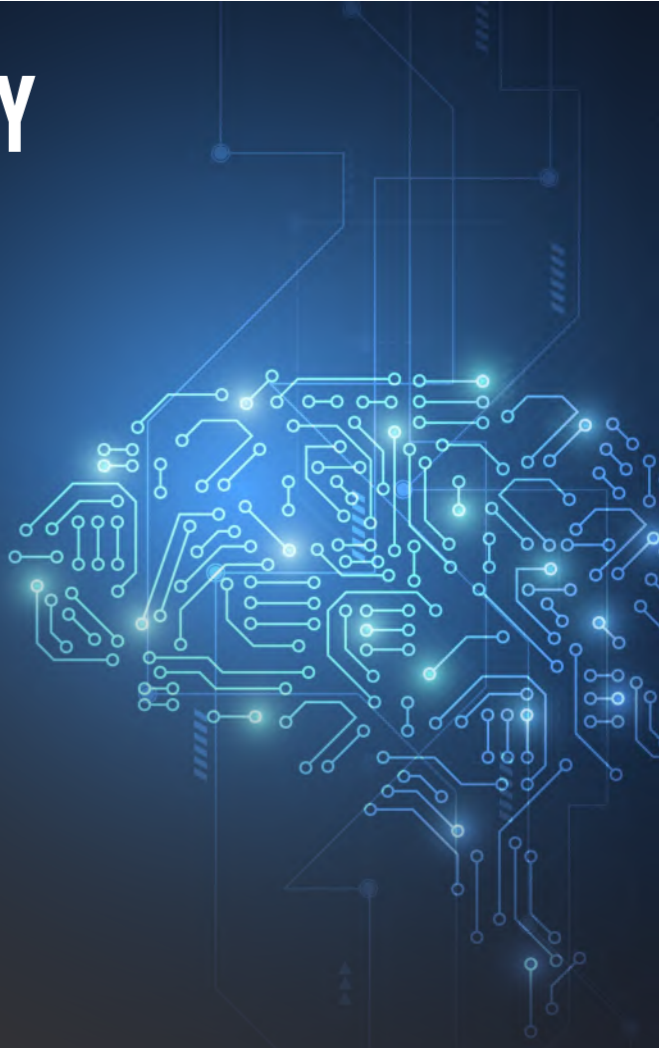
Test Engineering



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

GROWATT · PRODUCT

Datasheet	MIC 750TL-X	MIC 1000TL-X	MIC 1500TL-X	MIC 2000TL-X	MIC 2500TL-X	MIC 3000TL-X	MIC 3300TL-X
Input data (DC)							
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						
Output data (AC)							
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						
Efficiency							
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%						
Protection devices							
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						
General data							
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, VFR 2019, 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.

MIN 2500~6000 TL-XE



- Maximum efficiency 98.4%
- Dual MPP trackers
- Type II SPD on DC side
- Touch key and OLED display
- AFCI optional



GROWATT · PRODUCT

Datasheet	MIN 2500TL-XE	MIN 3000TL-XE	MIN 3600TL-XE	MIN 4200TL-XE	MIN 4600TL-XE	MIN 5000TL-XE	MIN 6000TL-XE
Input data (DC)							
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	13.5A*						
Max. short-circuit current per MPP tracker	16.9A						
Output data (AC)							
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						
Efficiency							
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%						
Protection devices							
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						
General data							
Dimensions (W / H / D)	375/350/160mm						
Weight	10.8kg						
Operating temperature range	-25°C ... +60°C						
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:10 years	Yes						

CE, CEI 0-21, VDE-AR-N 4105, VDE 0126-1-1, VFR 2019, EN 50549, IEC 62116, IEC 61727, G99, C10/C11, UNE217001, UNE206007, PO12.2

* Only the latest version with max. input current 13.5A per MPP tracker, for details please contact Growatt.

* 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-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
Input data (DC)							
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						
Input data (DC battery)							
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
Output data (AC)							
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						
Output data (Backup*)							
Max. apparent power	2500VA	3000VA	3600VA	4200VA	4600VA	5000VA	6000VA
Nominal AC voltage	230V						
AC grid frequency	50/60Hz						
Efficiency							
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%						
Protection devices							
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						
General data							
Dimensions (W / H / D)	375/350/160mm						
Weight	10.8kg						
Operating temperature range	-25°C ... +60°C						
Altitude	4000m						
Self-Consumption night	<3W						
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/WIFI/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, VFR 2019, EN 50549, IEC 62116, IEC 61727, G98/G99, 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.

* Backup power function need a Backup Box accessory.

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
Input data (DC)							
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						
Output data (AC)							
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						
Efficiency							
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%						
Protection devices							
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						
General data							
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, VFR 2019, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger G98/G99, G100, AS4777, UNE217001, UNE206007, PO1 2.2

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

MOD 3~10K TL3-XH



- Battery ready, future proof
- Dual MPP Trackers
- Type II SPD on DC and AC side
- Active Arcing Protection
- 24h self-consumption monitoring

GROWATT · PRODUCT

Datasheet	MOD 3000TL3-XH	MOD 4000TL3-XH	MOD 5000TL3-XH	MOD 6000TL3-XH	MOD 7000TL3-XH	MOD 8000TL3-XH	MOD 9000TL3-XH	MOD 10KTL3-XH
Input data (DC)								
Max. recommended PV power (for module STC)	6000W	8000W	10000W	12000W	14000W	16000W	18000W	20000W
Max. DC voltage	1100V							
Start voltage	160V							
Nominal voltage	600V							
MPPT voltage range	140V-1000V							
No. of MPP trackers	2							
No. of PV strings per MPP tracker	1							
Max. input current per MPP tracker	16A							
Max. short-circuit current per MPP tracker	20A							
Input data (DC battery)								
Compatible battery	ARK XH Battery System(7.68kWh-25.6kWh)							
Operating voltage range	600 V-950 V							
Max. operating current	11A				18.5A			
Max. charge power	6000W				10000W			
Max. discharge power	3300W	4400W	5500W	6600W	7700W	8800W	9900W	11000W*
Output data (AC)								
AC nominal power	3000W	4000W	5000W	6000W	7000W	8000W	9000W	10000W
Max. AC apparent power	3300VA	4400VA	5500VA	6600VA	7700VA	8800VA	9900VA	11000VA*
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	16.7A
Adjustable power factor	0.8leading...0.8lagging							
THDI	<3%							
AC grid connection type	3W+N+PE							
Efficiency								
MAX. efficiency	98.3%	98.3%	98.3%	98.3%	98.6%	98.6%	98.6%	98.6%
European efficiency	97.5%	97.5%	97.5%	97.5%	98.1%	98.1%	98.1%	98.1%
MPPT efficiency	99.9%							
Protection devices								
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							
General data								
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	425/387/178mm
Weight	12.5kg	12.5kg	12.5kg	12.5kg	14kg	14kg	14kg	14kg
Operating temperature range	- 25°C ... +60°C							
Nighttime power consumption	< 5.5W							
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, VFR 2019, 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-XH max. battery discharge power is limit to 10000W and 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.

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
Input data (DC)					
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
Output data (AC)					
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				
Efficiency					
MAX. efficiency			98.6%		
European efficiency	98.1%	98.1%	98.2%	98.2%	98.2%
MPPT efficiency	99.9%				
Protection devices					
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				
General data					
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, VFR 2019, 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 17~22K TL3-X



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

GROWATT · PRODUCT

Datasheet	MID 17KTL3-X	MID 20KTL3-X	MID 22KTL3-X
Input data (DC)			
Max. recommended PV power (for module STC)	25500W	30000W	33000W
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	
Output data (AC)			
Rated AC output power	17000W	20000W	22000W
Max. AC apparent power	18800VA	22000VA	24400VA
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	27.4A	31.9A	35.5A
Adjustable power factor		0.8leading...0.8lagging	
THDI		<3%	
AC grid connection type		3W+N+PE	
Efficiency			
Max. efficiency		98.75%	
European efficiency		98.6%	
MPPT efficiency		99.9%	
Protection devices			
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	
General data			
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, ITC C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR, G98/G99, G100, 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.

MID 25~40K TL3-X



- The maximum efficiency is up to 98.8%
- String monitoring
- Type II SPD on DC and AC side
- AFCI function ready

GROWATT · PRODUCT

Datasheet	MID 25KTL3-X1	MID 30KTL3-X	MID 33KTL3-X	MID 36KTL3-X	MID 40KTL3-X	
Input data (DC)						
Max. recommended PV power (for module STC)	37500W	45000W	49500W	54000W	60000W	
Max. DC voltage	1100V					
Start Voltage	250V					
Normal Voltage	600V					
MPPT voltage range	200-1000V					
No. of MPPT trackers	3	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					
Output data (AC)						
AC nominal power	25000W	30000W	33000W	36000W	40000W	
Max. AC apparent power	27700VA	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	40A	50.5A	55.5A	60.0A	66.6A	
Adjustable power factor	0.8leading...0.8lagging					
THDI	<3%					
AC grid connection type	3W+N+PE					
Efficiency						
Max. efficiency	98.8%					
European efficiency	98.5%					
MPPT efficiency	99.9%					
Protection devices						
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	Yes					
General data						
Dimensions (W / H / D)	29.5kg		29.5kg	580/435/230mm	30.5kg	30.5kg
Weight						
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, CE0-21, CE0-16, N4105, TOR Erzeuger, G98/G99, G100, AS/NZS 3100, AS4777, UNE217001, UNE206007, PO12.2, 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 50~80K TL3 LV



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

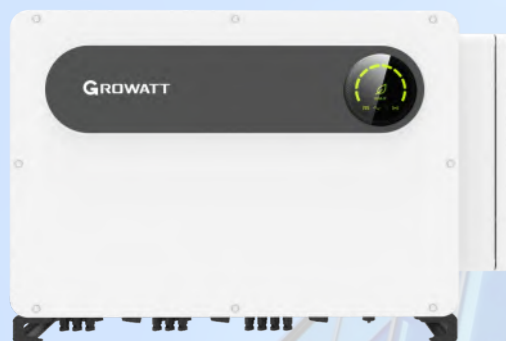
GROWATT · PRODUCT

Datasheet	MAX 50KTL3 LV	MAX 60KTL3 LV	MAX 70KTL3 LV	MAX 80KTL3 LV
Input data (DC)				
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 MPPT trackers	6	6	7	7
No. of PV strings per MPPT tracker	2			
Max. input current per MPPT tracker	26A			
Max. short-circuit current per MPPT tracker	32A			
Output data (AC)				
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			
Efficiency				
Max. efficiency	98.8%	98.8%	99%	99%
European efficiency	98.4%	98.4%	98.5%	98.5%
MPPT efficiency	99.9%			
Protection devices				
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			
General data				
Dimensions (W / H / D)	860/600/300mm			
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, VFR 2019, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, CEI 0-16, N4105, DRRG, G98/G99, G100, 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 protection

Datasheet	MAX 100KTL3-X LV	MAX 110KTL3-X LV	MAX 120KTL3-X LV	MAX 125KTL3-X LV
Input data (DC)				
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			
Output data (AC)				
AC nominal power	100000W	110000W	120000W	125000W
Max. AC apparent power	110000VA	121000VA	132000VA	137500VA
Nominal AC voltage(range*)	400V/380V(340-440VAC)			
AC grid frequency (range*)	50/60 Hz(45~55Hz/55-65 Hz)			
Max. output current	158.8A@400V 167.1A@380V	174.6A@400V 183.8A@380V	190.5A@400V 200.5A@380V	198.5A@400V 208.9A@380V
Adjustable power factor	0.8leading ...0.8lagging			
THDi	<3%			
AC grid connection type	3W/N/PE			
Efficiency				
Max. efficiency	98.8%			
European efficiency	98.4%	98.5%	98.5%	98.5%
MPPT efficiency	99.9%			
Protection devices				
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	Yes			
Arc fault detection (AFCI)	Yes			
General data				
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 ²)			
AC connection	OT Terminal (Max. 240mm ²)			
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, C10/C11, UNE206007, G99 CEI 0-21/0-16, N4105, 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.

SPH 3000~6000



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



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Datasheet	SPH 3000	SPH 3600	SPH 4000	SPH 4600	SPH 5000	SPH 6000
DC input data						
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				13.5A/13.5A		
Number of MPP trackers / strings per MPP tracker				2/1		
AC Output						
Rated AC output power	3000W	3680W	4000W	4600W	5000W	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%		
AC output power(Backup)						
Max. output power				3000W		
Rated AC output voltage				230Vac		
Rated AC output frequency				50/60Hz		
Automatic switchover time				<0.5S		
Battery data						
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		
Efficiency						
Max. efficiency	97.5%	97.5%	97.5%	97.6%	97.6%	97.7%
Euro European efficiency	97.0%	97.0%	97.0%	97.1%	97.1%	97.1%
MPPT efficiency				99.9%		
Protection devices						
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		
General Data						
Dimensions (W / H / D)				458/565/180mm		
Weight				27kg		
Operating temperature range				-25°C ... +60°C		
Altitude				2000m		
Self-Consumption				< 4 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 5000~10000 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



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Datasheet	SPH 5000TL3 BH-UP	SPH 6000TL3 BH-UP	SPH 8000TL3 BH-UP	SPH 10000TL3 BH-UP
Input data(PV)				
Max. recommended PV power (for module STC)	7500W	9000W	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			
Output data(AC)				
AC nominal power	5000W	6000W	8000W	10000W
Max. AC apparent power	5000VA	6000VA	8000VA	10000VA
Nominal AC voltage (range*)	230V/400V (310~476V)			
AC grid frequency (range)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)			
Max. output current	7.6A	9.1A	10.6A	15.2A
Adjustable power factor	0.8leading...0.8lagging			
THDI	< 3%			
AC grid connection type	3W+N+PE			
Battery data (DC)				
Battery voltage range	100~550V			
Max charging and discharging current	25A			
Continuous charging and discharging power	5000W	6000W	8000W	10000W
Type of battery	lithium/lead-acid			
Backup power(AC)				
Max. AC output power	5000W	6000W	8000W	10000W
Max. AC apparent power	5000VA	6000VA	8000VA	10000VA
Max. output current	7.6A	9.1A	12.1A	15.2A
Nominal AC output voltage	230V/400V			
Nominal AC output frequency	50/60HZ			
THDv	< 3%			
Switch time	< 10ms			
Efficiency				
MAX. efficiency	97.8%	98.0%	98.2%	98.2%
European efficiency	97.2%	97.3%	97.4%	97.5%
Protection devices				
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			
General data				
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:10 years	Yes			

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

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

SPA 5000~10000 TL3 BH



- IP65 & Natural cooling
- Supports Retrofit & New Systems
- Three work modes programmable
- Compatible with high-voltage battery
- Online Smart Service



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Datasheet	SPA5000TL3 BH	SPA6000TL3 BH	SPA8000TL3 BH	SPA10000TL3 BH
Output data(AC)				
AC nominal power	5000W	6000W	8000W	10000W
Max. AC apparent power	5000VA	6000VA	8000VA	10000VA
Nominal AC voltage(range*)	230V/400V (310~476V)			
AC grid frequency(range*)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)			
Max. output current	7.6A	9.1A	12.1A	15.2A
Adjustable power factor	0.8leading...0.8lagging			
THDI	< 3%			
AC grid connection type	3W+N+PE			
Output data(AC)				
Battery voltage range	100~550V			
Max charging and discharging current	25A			
Continuous charging and discharging power	5000W	6000W	8000W	10000W
Type of battery	Lithium battery			
Backup power(AC)				
Max. AC output power	5000W	6000W	8000W	10000W
Max. AC apparent power	5000VA	6000VA	8000VA	10000VA
Max. output current	7.6A	9.1A	12.1A	15.2A
Nominal AC output voltage	230V/400V			
Nominal AC output frequency	50/60HZ			
THDv	< 3%			
Switch time	< 0.5S			
Protection devices				
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			
General data				
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 0-21, IEC62116, IEC61727, AS/NZS 4777, G98, IEC 62477, C10/11, TOR Erzeuger

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

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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
General										
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*1									
Operation Temperature	-10~50°C*2									
Features										
BMS Monitoring Parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature measurement									
Communication Port	CAN									
Warranty	10 Years									
Certification										
IEC62619 (Cell&Pack), CE, CEC, RCM, UN38.3										

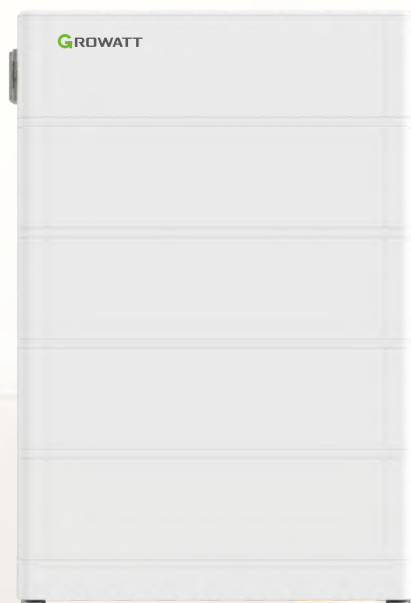
*1 Floor installation requires extra base (W/D/H=650/260/80 mm)

*2 Battery discharge: -10°C ~ 50°C, battery charge: 0°C ~ 50°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.

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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



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	91 kg	118kg	145kg	172kg	199kg	226kg	253kg	280kg
General								
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							
BMS Controller								
HVC 60050-A1								
Weight	8kg							
Communication Port	CAN							
Dimension(W/D/H)	650/260/185 mm							
BMS Monitoring Parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature measurement							
Certification & Licensing								
IEC62619(Cell&Pack), CE, CEC, RCM, UN38.3								

*1 Include BMS controller

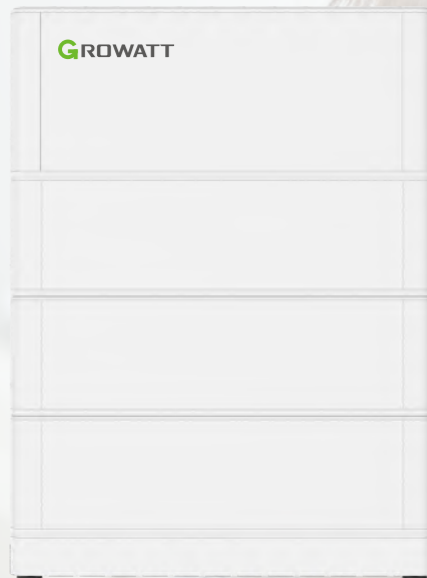
*2 Floor installation requires extra base (W/D/H=650/260/80 mm)

*3 Battery discharge: -10°C ~ 50°C, battery charge: 0°C ~ 50°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.

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ARK XH Battery System



- Compatible with MIN-XH, MOD-XH series inverter
- Flexible capacity options, 5.12kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- Remote firmware upgrade



Datasheet	ARK 5.1XH	ARK 7.6XH	ARK 10.2XH	ARK 12.8XH	ARK 15.3XH	ARK 17.9XH	ARK 20.4XH	ARK 23XH	ARK 25.6XH
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	8	9	10
Energy Capacity	5.12kWh	7.68kWh	10.24kWh	12.8kWh	15.36kWh	17.92kWh	20.48kWh	23.04kWh	25.6kWh
Usable Capacity	4.6kWh	6.9kWh	9.21kWh	11.52kWh	13.81kWh	16.12kWh	18.42kWh	20.74kWh	23.04kWh
Max. output power*1	2.5kW	3.75kW	5kW	6.25kW	7.5kW	8.75kW	10kW	11.25kW	12.5kW
Peak output power	5kW, 10s	7.5kW, 10s	10kW, 10s	12.5kW, 10s	15kW, 10s	17.5kW, 10s	20kW, 10s	22.5kW, 10s	25kW, 10s
Dimension (W/D/H)*2	650/260/630mm	650/260/815mm	650/260/1000mm	650/260/1185mm	650/260/1370mm	650/260/1555mm	650/260/1740mm	650/260/1925mm	650/260/2110mm
Weight	71kg	99kg	127kg	155kg	183kg	211kg	239kg	267kg	295kg
Nominal voltage (single phase system)	400V	400V	400V	400V	400V	400V	/	/	/
Operating voltage range (single phase system)*3	360V-550V	360V-550V	360V-550V	360V-550V	360V-550V	400V-550V	/	/	/
Nominal voltage (three phase system)	/	650V	650V	650V	650V	650V	650V	650V	650V
Operating voltage range (three phase system)*4	/	600V-950V	600V-950V	600V-950V	600V-950V	600V-950V	600V-950V	600V-950V	600V-950V
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)								
IP Protection	IP65								
Installation	Wall-mounted or Floor installation*5								
Operation Temperature	-10°C ... ~ 50°C*6								
Relative humidity	5%~95%								
Cooling	Natural								
Warranty	10 years								
Power modules	BDC 95045-A1								
Dimension(W/D/H)	650/260/260mm								
Weight	15kg								
Communication Port	CAN/RS485								
Nominal voltage	400V/650V								
Operating voltage range	360V-950V								
Maximum current	21A								
Peak current	42A, 10s								
Monitoring Parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature								
Certification & Licensing	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 battery ready ESS supports 2~7 pcs battery modules in series

*4 Three phase battery ready ESS supports 3~10 pcs battery modules in series

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

*6 Battery discharge: -10°C ~ 50°C, battery charge: 0°C ~ 50°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.

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Growatt ShineWiFi-X



- Cable free, easy installation
- USB communication port
- Built-in memory for up to one month of data
- Online monitoring and maintenance



GROWATT · PRODUCT

Datasheet	ShineWiFi-X
Wireless Parameters	
Wireless standard	802.11 b/g/n
Frequency range	2.4GHz~2.5GHz (2412MHz~2484MHz)
Transmit power	802.11b: 16±2 dBm (@11Mbps) 802.11g: 14±2 dBm (@54Mbps) 802.11n: 13±2 dBm (@HT20, MCS7)
Receiver sensitivity	CCK, 1 Mbps : -90dBm CCK, 11 Mbps: -85dBm 6 Mbps (1/2 BPSK): -88dBm 54 Mbps (3/4 64-QAM): -70dBm HT20, MCS7 (65 Mbps, 72.2 Mbps): -67dBm
Hardware Parameters	
Data interface	USB
Operating voltage	5V(±5%)
Rated power	1.2W
Display	LED
Application Parameters	
Supported servers	ShineServer
Inverter communication	USB (Modbus RTU protocol)
Server communication	TCP (Modbus TCP protocol)
Max. communication range	50m
Configuration type	APP configuration
Data transmission interval	5 Minutes
Default server URL	server.growatt.com
General Data	
Dimensions(L/W/H)	135/79/29 mm
Weight	60g
Operating temperature range	-20 °C ~ +65 °C
Warranty	1 year
CE	

Growatt Shine LAN-X



- Ethernet direct connection
- Plug and Play
- Online monitoring and maintenance
- Built-in memory for up to one month of data



GROWATT · PRODUCT

Datasheet	ShineLAN-X
Hardware parameters	
Data interface	USB
Nominal voltage	5V(±5%)
Nominal current	400mA
Nominal power	2W(MAX:3W)
Display	LED
Application parameters	
Supported Server	ShineServer
Inverter communication	USB(Modbus RTU protocol)
Server communication	TCP(Modbus TCP protocol)
Ethernet interface speed	10Mbps
Max. communication range	100m(Direct connection)
Configuration type	APP configuration
Data transmission interval	5 Minutes
Default server URL	server.growatt.com
General data	
Dimensions(L/W/H)	152/47/28mm
Weight	84g
Operating temperature range	-30°C ... +60°C
Environmental protection rating	IP65
CE, RoHS	

Growatt ShineLink-X



- Cable free, easy installation
- Dynamic IP, plug and play
- Communication distance up to 120m
- Support up to 8 devices
- Built-in memory for up to one month of data
- Online monitoring and maintenance

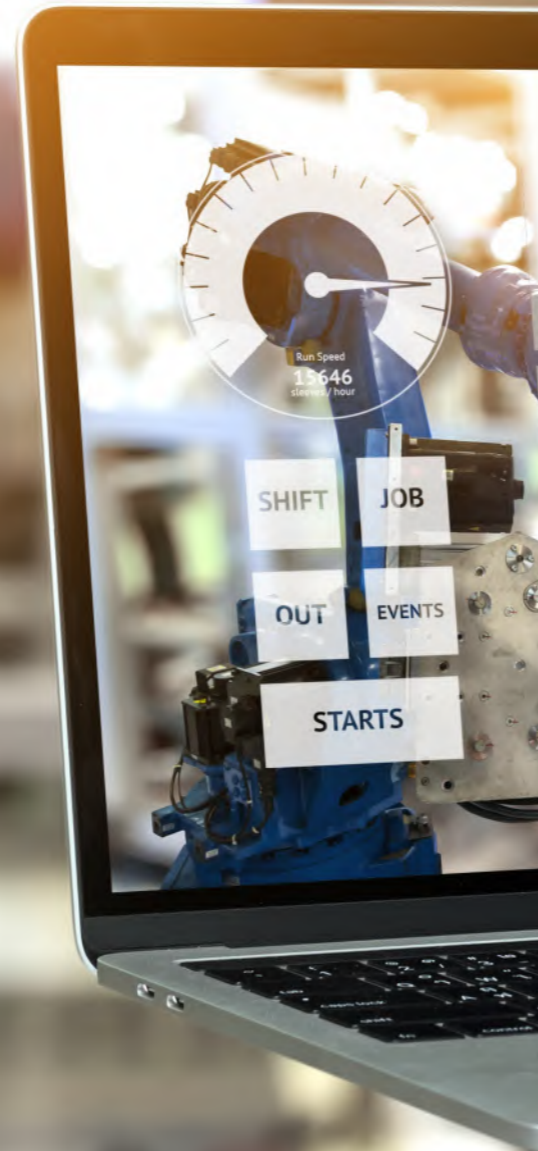
GROWATT · PRODUCT

Datasheet	ShineLink-X
Communication Interface	
RF433	Yes
RF433(No barrier wall)	Up to 120 m
RF433(two walls blocking)	20 m
Power Supply	
Power consumption	<2W standby, <5W peak
Voltage range	196V~250V
Frequency	50/60Hz
General Specifications	
Dimensions(L/W/H)	105/85/26mm
Weight	< 1kg
Mounting options	Tabletop/wall-mount
Protection degree	IP30
Display	LED
Ambient temperature range	-20 to 65 °C
Humidity	0-95% (non condensing)
Features	
Remote firmware upgrade	Yes
Max. number of devices to monitor	8(RF433)
Warranty	1 years
CE	

Growatt ShineMaster



- Local webserver for easy configuration
- Supports RS485, Ethernet, 4G communication
- Up to 64 inverters connection
- Multi-function and high performance



GROWATT · PRODUCT

Datasheet	ShineMaster	ShineMaster 4G
Hardware Parameter		
Power adapter	Input: 100-240V, 50/60Hz AC Output 5V(+/-15%), 1A DC	
Power consumption	2.5W	
Application Parameters		
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	
General Data		
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 (SEM-E)



- Manage multiple solar and storage Inverters
- Online monitoring and export limitation for the whole system
- Flexible CTs for different project size
- RS485 and Ethernet connection



GROWATT · PRODUCT

Datasheet	Smart Energy Manager (SEM-E)	
System Size	50KW	100KW
Meter data		
Normal voltage	230/400Vac	
Voltage range(L-L)	173~400Vac	
Grid connection	3W/N/PE	
Normal frequency	50/60 Hz	
Frequency range	45~55Hz/55-65 Hz	
CT data		
Max.current (CT detection)	100A	250A
Max. input current (CT sencond side)	40mA	
Accuracy (@ rated CT current)	0.5	
CT aperture	16mm	24mm
Communication		
RS485	Yes	
Ethernet	Yes	
Max.inverter number	10 pcs	
Communication distance	RS485: 500m Internet cable: 100m	
General Data		
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%	
CE		

Smart Energy Manager



- Local webserver for easy configuration
- Supports RS485, Ethernet, 4G communication
- Up to 64 inverters connection
- Multi-function and high performance

GROWATT · PRODUCT

Datasheet	Smart Energy Manager				
System Size	100KW	300KW	600KW	1MW	2MW
Meter data					
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				
CT data					
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
Communication					
RS485	Yes				
Ethernet	Yes				
Max.inverter number	32				
Communication distance	Rs485: 500m Internet cable: 100m				
General Data					
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					



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



NETHERLANDS 500KW SOLAR SYSTEM

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



NETHERLANDS 200KW SOLAR PLANT

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



NETHERLANDS 500KW SOLAR SYSTEM

- 500KW ◀
- 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

