

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

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GR-CA-017-01

Smart
Photovoltaic
Inverter
Series

2021

GROWATT

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- I N G ●
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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 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 grid-connected 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 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



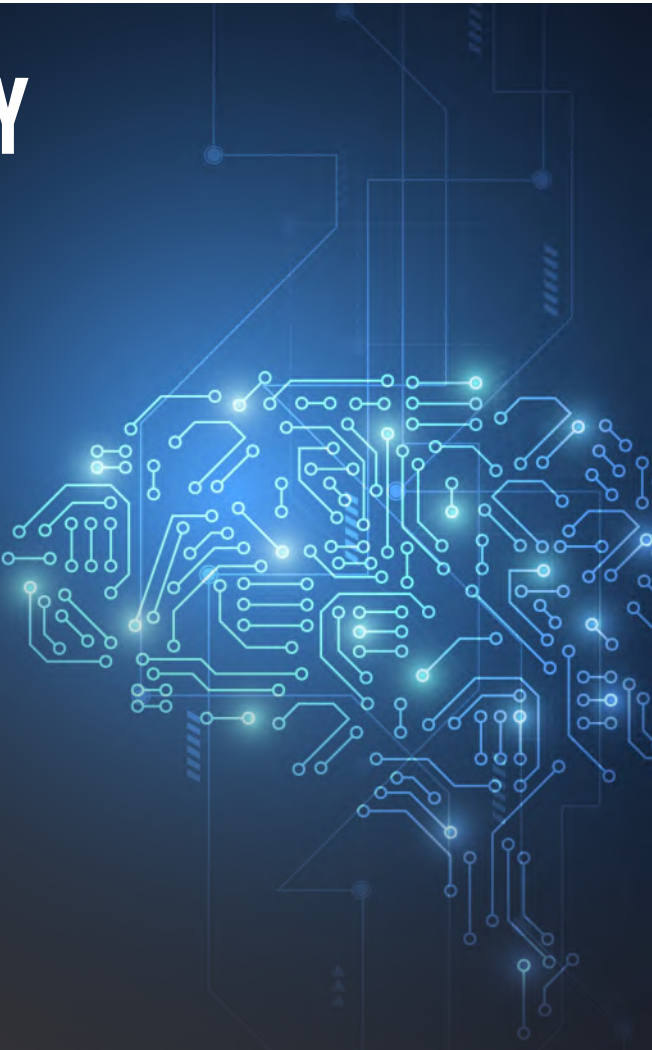
Test Engineering



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
- Supports export control
- Touch key and OLED display



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	< 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, VFR 2019, 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.

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, 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
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 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
Input data (DC)			
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	
Output data (AC)			
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		
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		
AFCI 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, VFR 2019, IEC62116, IEC61727, IEC 60068, IEC 61683, CE10-21, N4105, G98/G99, G100, UNE21700, 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%
- AFCI function ready
- Self-consumption monitoring
- Touch key and OLED display
- Type II SPD on DC and AC side

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 MPP trackers	3	3	3	4	4
No. of PV strings per MPP tracker	2				
Max.input current per MPP tracker	26A				
Max. short-circuit current per MPP 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)	580/435/230mm				
Weight	29.5kg	29.5kg	29.5kg	30.5kg	30.5kg
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, CEIO-21, CEIO-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



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

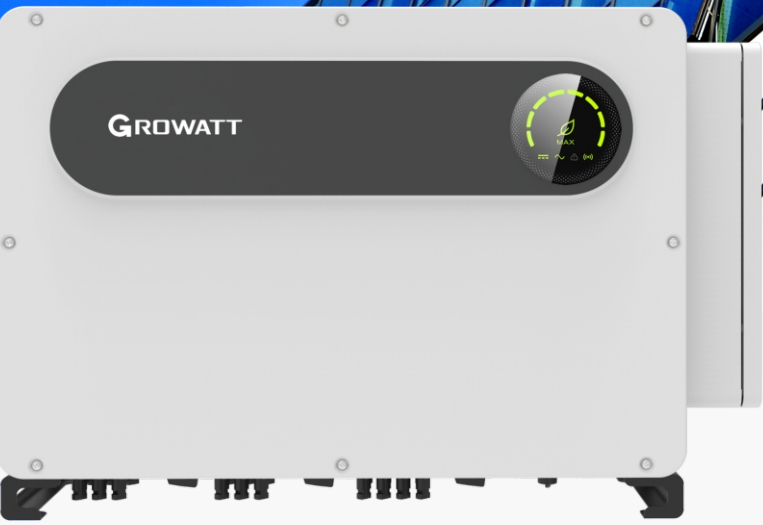
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Datasheet	MAX 50KTL3 LV		MAX 60KTL3 LV		MAX 70KTL3 LV		MAX 80KTL3 LV	
Input data (DC)								
Max. recommended PV power (for module STC)	75000W		90000W		105000W		120000W	
Max.DC voltage	1100V							
Start voltage	250V							
Nominal voltage	585V		585V		600V		600V	
MPPT voltage range	200V-1000V							
No. of 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 (at T _{amb} 45°C)	32A							
AC data								
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							
Performance								
Max.efficiency	98.8%		98.8%		99%		99%	
European efficiency	98.4%		98.4%		98.5%		98.5%	
MPPT efficiency (average)	99.9%							
Safety								
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								

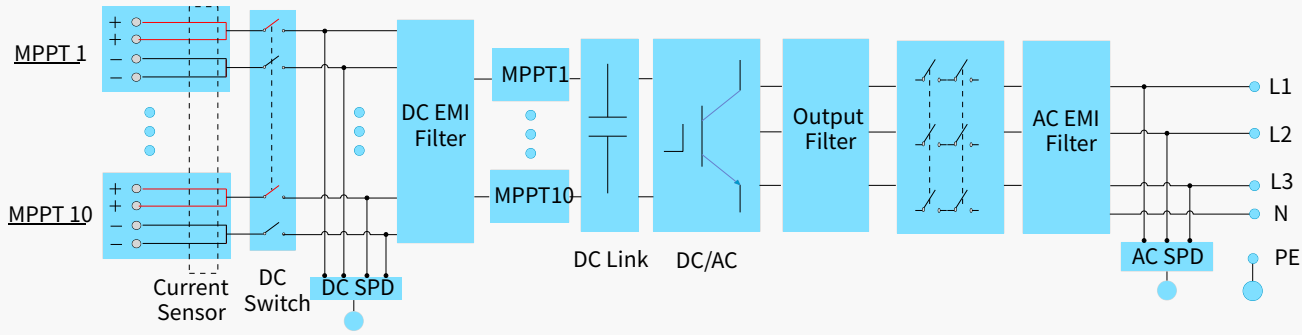
* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

MAX100~125KTL3-XLV

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



Topology Diagram



Primary Specification

Datasheet	MAX100KTL3-XLV		MAX110KTL3-XLV		MAX120KTL3-XLV		MAX125KTL3-XLV	
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 track	2							
Max. input current per MPP track	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*)	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							
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	Opt							
Arc fault detection (AFCI)	Opt							
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.6mm²)							
AC connection	OT Terminal (Max. 240mm²)							
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.

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



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				12A/12A		
Number of MPP trackers / strings per MPP tracker				2/1		
AC Output						
Rated AC output power	3000W	3680W	4000W	4600W	4999W	6000W
Max. AC apparent power	3000VA	3680VA	4000VA	4600VA	5000VA	6000VA
Max. output current	16A	16A	22A	22A	22A	27A
Nominal AC output voltage				230V		
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)				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		
CE, IEC62109, G98/G99, VDE0126-1-1, AS4777, AS/NZS 3100, CEI 0-21, VDE-AR-N4105, UTE C 15-712, EN50438, EN50549, IEC 61727, IEC 62116, C10/11						

CE, IEC62109, G98/G99, VDE0126-1-1, AS4777, AS/NZS 3100, CEI 0-21, VDE-AR-N4105, UTE C 15-712, EN50438, EN50549, IEC 61727, IEC 62116, C10/11

A white and black Growatt solar inverter. The top half is white with the 'GROWATT' logo in green. The bottom half is black and features a digital display screen showing '1000W' and a green LED indicator. To the right of the screen are four control buttons: a power button, a reset button, and two arrow buttons. The unit is mounted on a wall with four screws.

- 
- 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

Datasheet	SPH 4000TL3 BH	SPH 5000TL3 BH	SPH 6000TL3 BH	SPH 7000TL3 BH	SPH 8000TL3 BH	SPH 10000TL3 BH
Input data(PV)						
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					
Output data(AC)						
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					
Battery data (DC)						
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					
Backup power(AC)						
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					
Efficiency						
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%
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	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 0-2, IEC62116, IEC61727, AS/NZS 4777, G98, IEC 62477, C10/11 , UNE206007 , PO12.2, TOR Erzeuger						

IEC 61000, IEC 62109, IEC 62040, VDE-AR-N 4105, VDE 0126, UTE C 15-712, EN50549, CEI 0-2, IEC62116,
IEC61727, AS/NZS 4777, G98, IEC 62477, C10/11, UNE206007, PO12.2, TOR Erzeuger

SPA 3000TL BL



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

- 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

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Datasheet	SPA3000TL BL
Output data(AC)	
AC nominal power	3000W
Max. AC apparent power	3000VA
Nominal AC voltage (range*)	230V (180V-270V)
AC grid frequency (range*)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)
Max. output current	16A
Adjustable power factor	0.8leading...0.8lagging
THDi	<3%
AC grid connection type	Single phase
Battery data (DC)	
Battery voltage range	42~59V
Max charging and discharging current	66A
Continuous charging and discharging power	3000W
Type of battery	Lithium /Lead-acid
Backup power(AC)	
Max. AC output power	3000W
Max. AC apparent power	3000VA
Max. output current	16A
Nominal AC output voltage	230Vac
Nominal AC output frequency	50/60HZ
THDv	<3%
Switch time	0.5S
Protection devices	
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
General data	
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:10 years	Yes
CE, IEC62109, G98, VDE0126-1-1, CEI 0-21, IEC62116&IEC61727, EN50438, AS4777, AS/NZS 3100	

- 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
Output data(AC)						
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					
Output data(AC)						
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					
Backup power(AC)						
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					
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					
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						

ARK LV Battery System



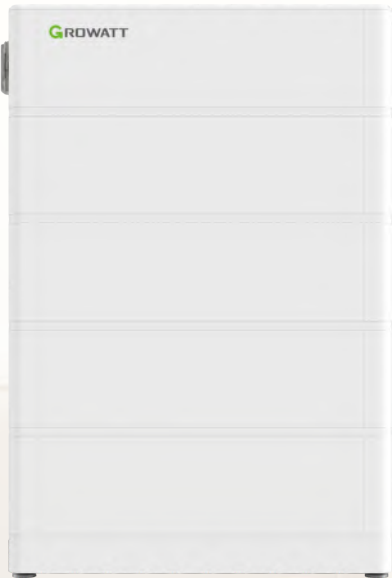
- Flexible capacity options, 2.56kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- Remote firmware upgrade

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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 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



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	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 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-S



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

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

GROWATT · PRODUCT

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

Growatt ShineLink



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

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

GROWATT · PRODUCT

Datasheet	ShineLink
Communication Interface	
RF433	Yes
RF433(in free-field conditions)	Up to 120 m
RF433(two walls blocking)	20 m
Power Supply	
Power consumption	<2W standby, <5W peak
AC power supply input voltage	196V~250V
AC power supply input frequency	50/60Hz
General Specifications	
Dimensions(L/H/W)	105/85/26mm
Weight	< 1 kg
Mounting options	Tabletop/wall-mount
Degree of protection	IP30
Status display	LED
Ambient temperature range	-25°C ~+60°C
Humidity	0-95% (non condensing)
Features	
Graphical user interface	Android/iOS APP
Remote firmware upgrades	Yes
Max. number of devices to monitor	8(RF433)
Warranty	1 years
CE	

Growatt ShineWiFi-X



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



Datasheet	ShineWiFi-X
Wireless Parameters	
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
Hardware Parameters	
Data interface	USB
Operation voltage	5V(+/-5%)
Max.power consumption@transmit	1.2W
Display	LED
Application Parameters	
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
General data	
Dimensions(L/W/H)	135/79/29mm
Weight	60g
Operating temperature range	-20°C ~ +65 °C
CE	

Growatt Shine LAN-X



Lan communication datalogger for easy installation plug-and-play, no need configuration.

- Ethernet direct connection
- Plug and Play
- Online monitoring and maintenance
- Build-in storage up to one month

GROWATT · PRODUCT

Datasheet	Shine LAN-X
Hardware parameters	
Data interface	USB
Nominal voltage	5V(±5%)
Nominal current	400mA
Nominal consumption	2W(MAX:3W)
Display	LED
Application parameters	
Supported Server	ShineServer
Inverter communication	USB(Modbus RTU protocol)
Server communication	TCP(Modbus TCP protocol)
USB speed	12M
Ethernet interface speed	10Mbps
Max. communication range	100m(Direct connection)
Configure type	APP configure
Data transfer interval	5 Minutes
Default server URL	server.growatt.com
General data	
Dimensions(W/H/D)	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
- Automatic IP addressing, plug and play
- 120 meters long range, wide coverage
- Multiple inverters supported, up to 8
- Build-in storage, 1 month data
- Online monitoring and maintenance

Datasheet	ShineLink-X
Communication Interface	
Rf433	Yes
Rf433(in free-field conditions)	Up to 120 m
Rf433(two walls blocking)	20 m
Power Supply	
Power consumption	<2W standby, <5W peak
AC power supply input voltage	196V~250V
AC power supply input frequency	50/60Hz
General Specifications	
Dimensions(L/H/W)	105/85/26mm
Weight	< 1kg
Mounting options	Tabletop/wall-mount
Degree of protection	IP30
Status display	LED
Ambient temperature range	-25°C ~ +60°C
Humidity	0-95% (non condensing)
Features	
Graphical user interface	Android/iOS APP
Remote firmware upgrades	Yes
Max. number of devices to monitor	8(RF433)
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
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)	150A	250A
Max. input current (CT sencond side)	40mA	
Accuracy (@ rated CT current)	0.5	
CT aperture	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



- 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
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 sencond 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					

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 600KW SOLAR PLANT

► 600KW
► Thailand
► MAX 60KTL3 LV



THAILAND 134MW SOLAR PLANT

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



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

