

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



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

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GR-CA-006-05

Global Leading
Distributed
Energy
Solution Provider



2023



GLOBAL NETWORK

ONLINE SMART SERVICE

Growatt has developed the Online Smart Service (OSS) system for installers and distributors, which significantly improves service efficiency and customer satisfaction. Our OSS platform enables installers, integrators and distributors to manage and maintain their solar plants remotely and intelligently for improved service efficiency and reduced O&M costs.



PROFESSIONAL TRAINING

As a global leading distributed energy solution provider, we provide localized service support for global customers through our global service network and dedicated sales and customer support teams with a combination of online and offline support, including customer hotlines, mobile apps and onsite support.



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COMPANY PROFILE

Established in 2011, Growatt is a global leading distributed energy solution provider, specializing in sustainable energy generation, storage and consumption, as well as energy digitalization. We design, develop and manufacture PV inverters, energy storage products, smart energy management system and others, and distribute them predominantly to residential and commercial and industrial ("C&I") end users around the world through our leading sales channels.



Since our foundation, Growatt has been committed to continuous technology innovations to drive sustainable growth. With a well-established R&D platform and a R&D team of more than 500 professionals, we are able to quickly adapt to market trends and offer tailored products to energy users across the world.

Committed to 'glocalization', Growatt has set up 34 representative offices in multiple countries and regions such as Germany, Netherlands, UK, US, Brazil, Mexico, Australia and India to provide localized service support. To date, our business spans across over 150 countries and regions, and we have created a vibrant distributed energy ecosystem connecting approximately 1.4 million residential and C&I end users around the world through an interactive cloud platform.

According to Frost & Sullivan, Growatt was already the third largest PV inverter supplier globally in 2021. In addition, we were ranked the number one residential inverter supplier globally as well as the world's largest supplier of user-side energy storage inverter in terms of shipment volume.

At Growatt, our team is dedicated to building the world's largest intelligent sustainable energy ecosystem for human kind and enabling everyone to benefit from sustainable energy.

2023

2011



3,000,000+

Annual Production Capacity of Inverters



150+

Countries with Installed Systems

BRAND POWER

GLOBAL
NO.1

Residential Inverter Supplier

Favored by millions of families across the world, Growatt is the world's No.1 residential inverter supplier.

FROST & SULLIVAN

GLOBAL
NO.1

User Side Energy Storage Inverter Supplier

Growatt is also the world's largest supplier of user-side energy storage inverter, according to Frost & Sullivan.

FROST & SULLIVAN

GLOBAL
NO.3

PV Inverter Supplier

Additionally, Growatt is ranked the number three PV inverter supplier globally in shipment terms.

FROST & SULLIVAN

ALL QUALITY MATTERS AWARD



At Growatt, we hold ourselves to comprehensive and strict engineering and quality control standards. Our unwavering commitment to quality underpins our global success. With first-rate product performance first-rate performance in numerous safety and reliability tests, we have received 'All Quality Matters Awards' by TÜV Rheinland for our MAX 80KTL3 MV inverter and ARK battery system.

TOP BRAND PV AWARDS



International market research company EUPD Research has recognized Growatt's preeminent brand position across global markets according to its surveys and analysis. The institute has presented Growatt with 'Top Brand PV Inverter' and 'Top Brand PV Storage' awards for achieving outstanding performance in terms of reliability, market penetration, brand awareness and satisfaction across global solar markets.

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%


140+

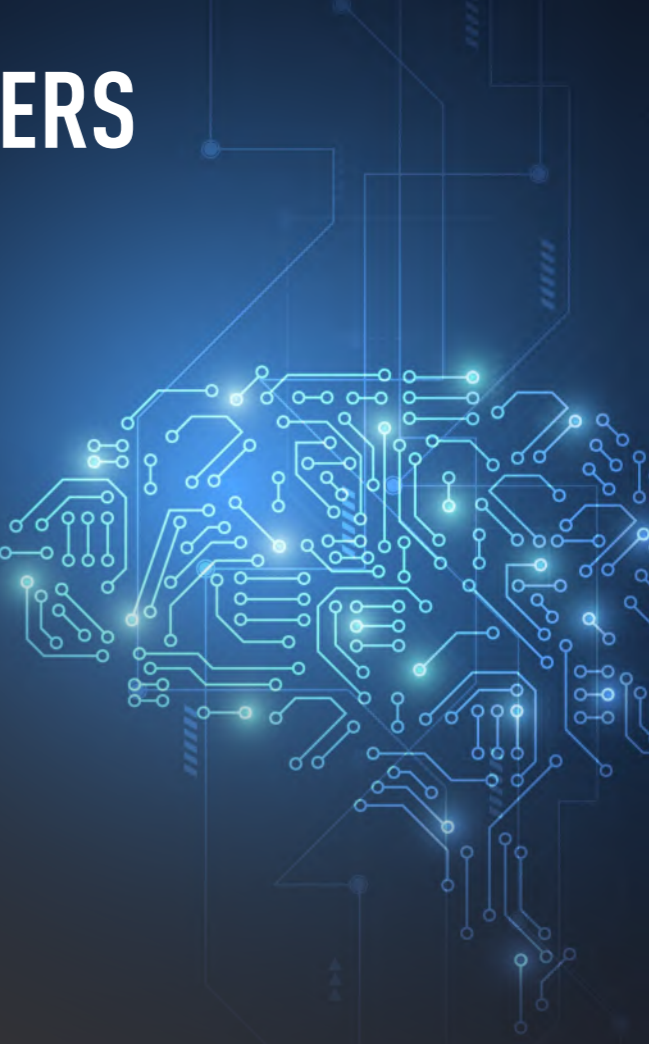
140+ PATENTS AND COPYRIGHTS

Our R&D team has achieved more than 140 patents and copyrights.

RELIABILITY MATTERS

From design to manufacturing, we've implemented a comprehensive and rigorous system to ensure high level of quality, reliability and performance as we expand production capacity to cater to rapidly growing global demand for our products. Our five-step quality engineering system 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 solutions



Monitoring solutions

MIC 750~3300 TL-X



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

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	Yes						
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.

* AFCI function need to be activated after installation.

MIN 2500~6000 TL-X



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



GROWATT · PRODUCT

Datasheet	MIN 2500TL-X	MIN 3000TL-X	MIN 3600TL-X	MIN 4200TL-X	MIN 4600TL-X	MIN 5000TL-X	MIN 6000TL-X
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	Yes						
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, ITC 15-712-1, EN 50549, IEC 62116, IEC 61727, G99, 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.

* AFCI function need to be activated after installation.

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.

* AFCI function need to be activated after installation.

* 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



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.
* AFCI function need to be activated after installation.

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/strings per MPP tracker	2/1							
Max. input current per MPP tracker	16A							
Max. short-circuit current per MPP tracker	20A							
Input data (DC battery)								
Compatible battery	APX HV Battery System (5kWh-30kWh) / ARK XH Battery System (7.68kWh-25.6kWh)*1							
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*2)	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							
Output data (Backup*3)								
Max. apparent power	3000VA	4000VA	5000VA	6000VA	7000VA	8000VA	9000VA	10000VA
Nominal AC voltage	230V/400V							
AC grid frequency	50/60Hz							
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

*1 When works with ARK XH Battery System, it only can be on-grid storage system.

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

*3 The backup function is ready for the special version with Backup table by using the SYN 50-XH-30 device.

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 MPPT trackers	2				
No. of PV strings per MPPT tracker	1	1	1/2	1/2	1/2
Max. input current per MPPT tracker	13A	13A	13/26A	13/26A	13/26A
Max. short-circuit current per MPPT 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	24A
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.

* AFCI function need to be activated after installation.

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		Yes	
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, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, 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.

* AFCl function need to be activated after installation.

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 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, CED-21, CED-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.

* AFCI function need to be activated after installation.

MAX 50~80K TL3 LV



- 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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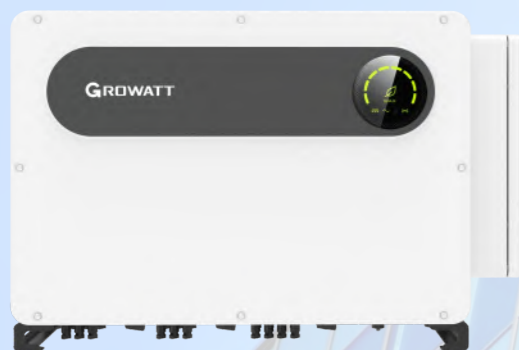
Datasheet	MAX 50KTL3 LV	MAX 60KTL3 LV	MAX 70KTL3 LV	MAX 80KTL3 LV
Input data (DC)				
Max. recommended PV power (for module STC)	75000W	90000W	105000W	120000W
Max. DC voltage	1100V			
Start voltage	250V			
Nominal voltage	585V	585V	600V	600V
MPPT voltage range	200V-1000V			
No. of MPP trackers	6	6	7	7
No. of PV strings per MPP tracker	2			
Max. input current per MPP tracker	26A			
Max. short-circuit current per MPP 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.

* AFCI function need to be activated after installation.

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

GROWATT · PRODUCT

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*)	220V/380V, 230V/400V (340-440V)			
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.

* AFCI function need to be activated after installation.

SPH 3000~6000TL BL-UP



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

GROWATT · PRODUCT

Datasheet	SPH3000TL BL-UP	SPH3600TL BL-UP	SPH4000TL BL-UP	SPH4600TL BL-UP	SPH5000TL BL-UP	SPH6000TL BL-UP
Input data(PV)						
Max. recommended PV power (for module STC)	6500W	7500W	8500W	9000W	9500W	10600W
Max. DC voltage	550V					
Start voltage	120V					
MPP voltage range/ Nominal Voltage	120-550V/370V					
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	3000W	3680W	4000W	4600W	5000W	6000W
Rated AC apparent power	3000VA	3600VA	4000VA	4600VA	5000VA	6000VA
Nominal AC voltage (range)	230V/ (180Vac-260Vac)					
AC grid frequency (range)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Rated, output current	13.5A	16A	17.5A	20A	22A	27A
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	75A	85A	85A	85A	85A
Continuous charging and discharging power	3000W	3680W	4000W	4000W	4000W	4000W
Type of battery	Lithium /Lead-acid					
Backup power(AC)						
Max. AC output power	3000W	3680W	4000W	4000W	4000W	4000W
Rated output current	13A	16A	17.5A	17.5A	17.5A	17.5A
Nominal AC output voltage	230Vac					
Nominal AC output frequency	50/60HZ					
THDv	<3%					
Switch time	<10ms					
Efficiency						
MAX. efficiency	97.20%	97.20%	97.30%	97.40%	97.50%	97.60%
European efficiency	97%	97%	97.10%	97.10%	97.20%	97.20%
MPPT efficiency	≥99.5%					
Protection devices						
DC switch	Yes					
DC reverse polarity protection	Yes					
AC/DC surge protection	Yes					
Battery reverse protection	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Anti-islanding protection	Yes					
Residual-current monitoring unit	Yes					
Insulation resistance monitoring	Yes					
General data						
Dimensions (W / H / D)	565/456/188mm					
Weight	27kg					
Operating temperature range	-25°C ... +60°C					
Nighttime power consumption	< 10 W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0~100%					
Altitude	2000m					
PV DC Connection	H4/MC4(Optional)					
Battery DC Connection	OT Terminal					
AC connection	Connector					
Display	LCD+LED					
Interfaces:RS485/CAN/USB	Yes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty: 5 years / 10 years	Yes/Optional					

CE, IEC62109, G98/G99, VDE0126-1-1, AS4777, CEI 0-21, VDE-AR-N4105, UTE C 15-712, EN50549, EC 61727, IEC 62116, IEC 62040, C1Q/11, NRS 097-2-1

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

SPH 4000~10000 TL3 BH-UP



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



GROWATT · PRODUCT

Datasheet	SPH 4000TL3 BH-UP	SPH 5000TL3 BH-UP	SPH 6000TL3 BH-UP	SPH 7000TL3 BH-UP	SPH 8000TL3 BH-UP	SPH 10000TL3 BH-UP
Input data(PV)						
Max. recommended PV power (for module STC)	6000W	7500W	9000W	10500W	12000W	15000W
Max. DC voltage	1000					
Start voltage	120V					
MPP voltage range	120V-1000V/600V					
No. of MPP trackers	2					
No. of PV strings per MPP tracker	1					
Max. input current per MPP tracker	13.5A					
Max. short-circuit current per MPP tracker	16.9A					
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/Lead-acid					
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	<10ms					
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%
Euro battery discharge efficiency	97.4%					
MPPT efficiency	99.9%					
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.

MIN 2500~5000 TL-XA



- Max. Charge power 5kW
- Supports Retrofit & new system
- Compatible with ARK XH Battery System
- 24h self-consumption monitoring



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Datasheet	MIN 2500TL-XA	MIN 3000TL-XA	MIN 3600TL-XA	MIN 4200TL-XA	MIN 4600TL-XA	MIN 5000TL-XA
Input data (DC battery)						
Compatible battery	ARK XH Battery System (5.12kWh~17.9kWh)					
Operating voltage range	360-500V	360-500V	360-550V	360-550V	360-550V	360-550V
Max.operating current	17A					
Max.charge power	5kW					
Max.discharge power	2500W	3000W	3600W	4200W	4600W	5000W
Output data (AC)						
AC nominal power	2500W	3000W	3600W	4200W	4600W	5000W
Max. AC apparent power	2500VA	3000VA	3600VA	4200VA	4600VA	5000VA
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
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
Nominal AC voltage	230V					
AC grid frequency	50/60Hz					
Efficiency						
Max. efficiency	98.2%	98.2%	98.2%	98.4%	98.4%	98.4%
European efficiency	97.1%	97.1%	97.2%	97.2%	97.5%	97.5%
Protection devices						
AC surge protection	Type III					
Insulation resistance monitoring	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Residual-current monitoring unit	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%					
AC connection	Connector					
Display	OLED+LED/WIFI+APP					
Interfaces: RS485 / USB/WI-FI/ GPRS/ RF/LAN	Yes/Yes/Optional/Optional/Optional /Optional					
Warranty: 10 years	Yes					

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

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

* Backup power function need a Backup Box accessory.

SPA 4000~10000 TL3 BH-UP



- 100% three-phase imbalance output
- Smart phase-level power export limitation
- Wide battery voltage 100-550V
- UPS function, 10ms transition
- Scalable system configuration



GROWATT · PRODUCT

Datasheet	SPA 4000TL3 BH-UP	SPA 5000TL3 BH-UP	SPA 6000TL3 BH-UP	SPA 7000TL3 BH-UP	SPA 8000TL3 BH-UP	SPA 10000TL3 BH-UP
Output/Input 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/Lead-acid					
Backup power(AC)						
AC 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 voltage	230V/400V					
Nominal AC frequency	50/60HZ					
THDv	<3%					
Switch time	<10ms					
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						
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	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					
AC connection	Connector					
Display	LCD+LED					
Interfaces: RS485/CAN/USB	Yes					
Monitor : RF/MFI/GPRS	Optional					
Warranty: 10 years	Yes					

CE, IEC62109, IEC 62040, VDE-AR-N 4105, VDE 0126, VFR 2019, 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.

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

GROWATT · PRODUCT

Datasheet	ARK 2.5L	ARK 5.1L	ARK 7.6L	ARK 10.2L	ARK 12.8L	ARK 15.3L	ARK 17.9L	ARK 20.4L	ARK 23.0L	ARK 25.6L
System Demo										
Battery Module	ARK 2.5L-A1 (2.56kWh, 51.2V, 28kg)									
Number of Modules	1	2	3	4	5	6	7	8	9	10
Energy Capacity	2.56kWh	5.12kWh	7.68kWh	10.24kWh	12.8kWh	15.35kWh	17.92kWh	20.48kWh	23.04kWh	25.64kWh
Usable Capacity	2.30kWh	4.6kWh	6.9kWh	9.21kWh	11.52kWh	13.81kWh	16.12kWh	18.43kWh	20.73kWh	23.04kWh
Dimension (W/D/H)	650/260/185mm	650/260/365mm	650/260/545mm	650/260/725mm	650/260/905mm	650/260/1085mm	650/260/1265mm	650/260/1445mm	650/260/1625mm	650/260/1805mm
Weight	28kg	56kg	84kg	112kg	140kg	168kg	196kg	224kg	252kg	280kg
Standard Charge/Discharge Current	25A	50A	75A	100A	100A	100A	100A	100A	100A	100A
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*									
Operation Temperature	-10~50°C*									
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 The Battery base is optional for ARK LV battery

*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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AXE 5.0L Modular Battery



- Flexible capacity options, 5kWh to 400kWh
- Excellent safety of cobalt free LiFePO4 battery
- Stacked installation without cable connection
- Remote firmware upgrade



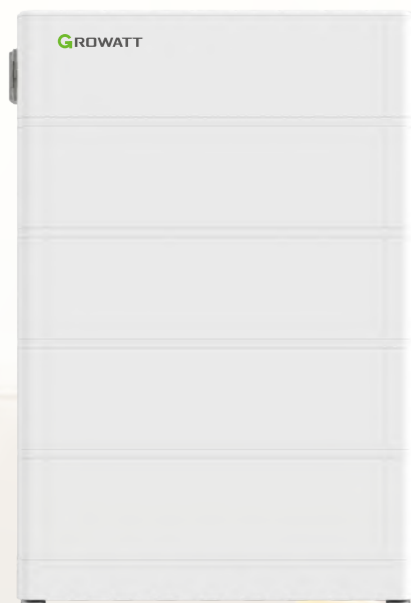
Datasheet	AXE 5.0L	AXE 10.0L	AXE 15.0L	AXE 20.0L	AXE 25.0L	AXE 30.0L	AXE 35.0L	AXE 40.0L	AXE 45.0L	AXE 50.0L
System Demo										
Battery Module	AXE 5.0L - C1 (5.0kWh, 51.2V, 45kg)									
Number of Modules	1	2	3	4	5	6	7	8	9	10
Energy Capacity	5.0kWh	10.0kWh	15.0kWh	20.0kWh	25.0kWh	30.0kWh	35.0kWh	40.0kWh	45.0kWh	50.0kWh
Dimension (W/D/H)*1	650/350/165mm	650/350/305mm	650/350/445mm	650/350/585mm	650/350/725mm	650/350/865mm	650/350/1005mm	650/350/1145mm	650/350/1285mm	650/350/1425mm
Weight	47kg	92kg	137kg	182kg	227kg	272kg	317kg	362kg	407kg	452kg
Max Charge	60A	120A	150A	150A	150A	150A	150A	150A	150A	150A
Max Discharge	60A	120A	150A	150A	150A	150A	150A	150A	150A	150A
General										
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)									
Nominal Voltage	51.2V									
Operating voltage Range	48 - 57.6V									
IP Protection	IP20									
Installation	Floor installation*									
Operation Temperature	0 - 50°C									
Features										
DoD	92%									
Multi-cluster AXE battery system in parallel	Max. 8 clusters (Max. 400kWh)									
BMS Monitoring Parameters	SOC, System voltage, Current, Cell voltage, Cell temperature, PCBA temperature measurement									
Communication Port	CAN/RS485									
Warranty(5/10 years)	Yes/Opt									
Certification										
CE, ROHS, UL1973 + FCC, UN38.3 + PI965, UKCA, UKCA										

*1 The system dimension is included with the battery base

*2 Floor installation requires extra base (W/D/H=654/353/25mm)

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



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)*	650/260/725mm	650/260/905mm	650/260/1085mm	650/260/1265mm	650/260/1445mm	650/260/1625mm	650/260/1805mm	650/260/1985mm
Weight	91kg	118kg	145kg	172kg	199kg	226kg	253kg	280kg
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*							
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

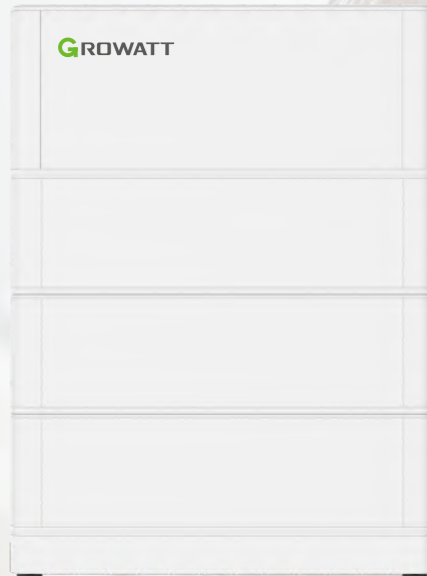
*2 The battery base and bracket are optional for ARK HV battery

*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
- Long lifespan, 10 years warranty
- Remote firmware upgrade



GROWATT · PRODUCT

Datasheet	ARK 5.1XH	ARK 7.6XH	ARK 10.2XH	ARK 12.8XH	ARK 15.3XH	ARK 17.9XH	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 Include BMS controller

*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 The battery base and bracket are optional for ARK XH battery

*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

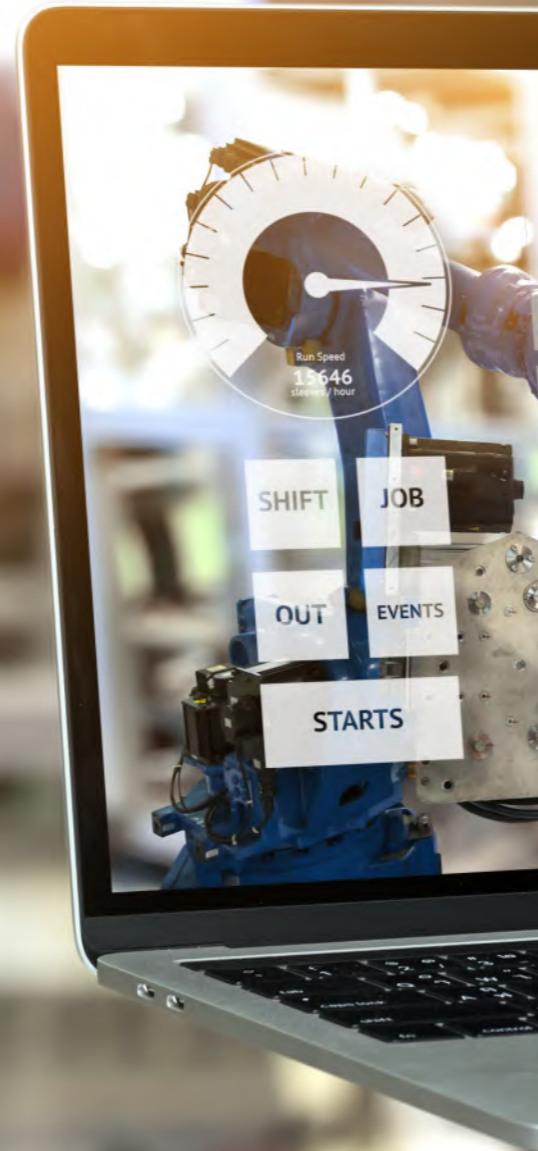
GROWATT · PRODUCT

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



- 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 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

