

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



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🔍 Growatt New Energy

GR-CA-006-15

Global Leading
Distributed
Energy
Solution Provider



2025

GROWATT

SERVICE SUPPORT

ONLINE SMART SERVICE

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



PROFESSIONAL TRAINING

As a global leading distributed energy solution provider, we provide in-depth education and training in the latest energy technologies, product installation, system monitoring, troubleshooting techniques, etc. Customers can access online training resources on our YouTube channel or attend our webinars and in-person events for an engaging learning experience.



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COMPANY PROFILE

Growatt was established in 2011 by a group of pioneers in the global PV industry with a vision to build a green and sustainable future. Specializing in sustainable energy generation, storage and consumption, as well as energy digitalization, we design, develop and manufacture PV inverters, energy storage products, EV chargers, smart energy management system and others.



Highly regarded by customers worldwide, Growatt ranks among the Top 5 PV inverter suppliers globally, according to S&P Global Commodity Insights. Specifically, we hold the leading position as the world's Top 2 suppliers of residential inverter and the Top 5 commercial & industrial PV inverter suppliers in terms of shipment volume.

Since our establishment, Growatt has been committed to continuous technology innovations. With a well-established R&D platform and a R&D team of more than 1,100 professionals, we constantly introduce new upgrades and innovations in the energy efficiency, functional safety and intelligent solutions of inverter, energy storage and EV charging applications. Till now, we have obtained more than 187 patents.

At Growatt, we hold ourselves to comprehensive and strict engineering and quality control standards. From design to manufacturing, we have implemented a comprehensive and rigorous system to ensure high level of quality, reliability and performance. We have received 'All Quality Matters Awards' by TÜV Rheinland for our C&I inverters — MAX 80KTL3 MV and MAX 125KTL3-X LV as well as battery storage solution— ARK Battery System for achieving first-rate performance in numerous safety and reliability tests.

Committed to 'glocalization', Growatt has set up 65 representative sites worldwide to provide localized service support with a combination of online and offline support. We have developed the Online Smart Service (OSS) system that enables installers, integrators and EPCs to manage and maintain their solar plants remotely and intelligently.

To date, Growatt's business spans across over 180 countries and regions. We work with thousands of local partners to establish robust distribution and logistics networks, ensuring convenient access to our product portfolios for global customers.

2025
2011



3,100,000+
Inverters

400,000+
Battery Packs

Annual Production Capacity



180+

Countries With Installed Systems

OUR STRENGTH IN DATA



65+
Representative Sites



180+
Countries With Installed Systems



3M+
Cloud Platform Users



1,100+
R&D Engineers



187+
Patents Obtained

GLOBAL NETWORK



HONORS & AWARDS



Residential Inverter Supplier



PV Inverter Supplier



Commercial & Industrial PV Inverter Supplier

*Source: S&P Global Commodity Insights



All Quality Matters Award
MAX 125KTL3-X LV
MAX 80KTL3 MV



All Quality Matters Award
ARK Battery System



PV Magazine Award
MIN 2500-6000TL-XH



PV Magazine Award
APX HV Battery

TOP BRAND PV AWARDS

EUROPE



AFRICA



AMERICAS



APAC



GROWATT SMART PHOTOVOLTAIC SOLUTIONS



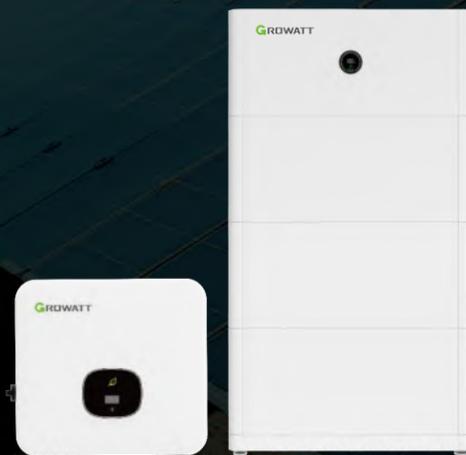
Residential on-grid inverters



Commercial on-grid inverters



Large commercial and utility grade on-grid inverters



Residential storage solutions



Commercial 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, AS 4777, AS/NZS 3100, CEI 0-21, VDE-AR-N 4105, VDE 0126-1-1, VFR 2019, EN 50549, IEC 60068, IEC 61683, IEC 62116, IEC 61727, INMETRO, G98, C10/C11, UNE 217001, UNE 206007, 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



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
Full load voltage range	95V-450V	115V-450V	140V-500V	160V-500V	180V-500V	190V-500V	230V-500V
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), APX 5.0-30.0P-S0 (5kWh-30kWh), APX 5.0-20.0P-S3 (5kWh-20kWh)						
Operating voltage range	360-500V						
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*)	220/230V (160-276V)						
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	220/230V						
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, IEC 62109, 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, UNE 217001, UNE 206007, PO12.2

* The AC voltage and frequency range may vary depending on specific country grid standard. All specifications are subject to change without notice.
 * Backup power function need a Backup Box accessory.
 * AFCI function need to be activated after installation.

MOD 3~10K TL3-XH(BP)



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

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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 5.0-30.0P-S1/S2/S4 (5kWh-30kWh)							
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*1)	220V/380V, 230V/400V (340-440V)							
AC grid frequency (range*1)	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*2)								
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*3	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, VDE 0126, Greece, EN 50549, C10/C11, VFR 2019, IEC 62116, IEC 61727, IEC 60068, IEC 61683, CEI 0-21, N 4105, TOR Erzeuger G98/G99, G100, AS 4777, UNE 217001, UNE 206007, PO12.2

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

*2 The backup function is ready for the BP version with 'Backup' label by using the SYN 50-XH-30 or SYN 100-XH-30 devices.

*3 AFCI function need to be activated after installation.

MID 11~30K TL3-XH



- Battery ready, up to 30kW
- DC/AC ratio up to 2
- AFCI function ready
- Type II SPD on DC and AC side
- 24h self-consumption monitoring

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Datasheet	MID 11KTL3-XH	MID 12KTL3-XH	MID 13KTL3-XH	MID 15KTL3-XH	MID 17KTL3-XH	MID 20KTL3-XH	MID 25KTL3-XH	MID 30KTL3-XH
Input data (DC)								
Max. recommended PV power (for module STC)	22000W	24000W	26000W	30000W	34000W	40000W	50000W	60000W
Max. DC voltage	1100V							
Start voltage	200V							
Nominal voltage	600V							
MPPT voltage range	160V-1000V							
No. of MPP trackers	2	2	2	2	2	2	3	3
No. of PV strings per MPP tracker	2							
Max. input current per MPP tracker	32A							
Max. short-circuit current per MPP tracker	40A							
Input data (DC battery)								
Compatible battery	APX 5.0-30.0P-S2/S4 (5kWh-60kWh)							
Operating voltage range	600 V-980 V							
Max. operating current	25A/25A*1							
Max. charge power	15000W or 30000W*2							
Max. discharge power	11000W	12000W	13000W	15000W	17000W	20000W	25000W	30000W
Output data (AC)								
AC nominal power	11000W	12000W	13000W	15000W	17000W	20000W	25000W	30000W
Max. AC apparent power	12100VA	13200VA	14300VA	16500VA	18700VA	22000VA	27500VA	30000VA
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	18.3A	20A	21.7A	25A	28.3A	33.3A	41.6A	45.5A
Adjustable power factor	0.8leading...0.8lagging							
THDi	<3%							
AC grid connection type	3W+N+PE							
Output data (Backup*3)								
Max. apparent power	11kVA	12kVA	13kVA	15kVA	17kVA	20kVA	25kVA	30kVA
Maximum output current	16.7A	18.2A	19.7A	22.7A	25.8A	30.3A	37.9A	45.5A
Nominal AC voltage	220V/380V/230V/400V							
Efficiency								
Max. efficiency	98.75%				98.80%			
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 fault monitoring	Yes							
AFCI protection*4	Yes							
General data								
Dimensions (W / H / D)	579/433/217.5mm							
Weight	29.5kg	29.5kg	29.5kg	29.5kg	29.5kg	29.5kg	30kg	30kg
Operating temperature range	-25°C ... +60°C							
Nighttime power consumption	<5.5W							
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: USB/RS485/WIFI/4G/LAN/RF	Yes/Yes/Optional/Optional/Optional/Optional							
Warranty: 5years / 10 years	Yes/Optional							
CE, VDE 0126, Greece, EN 50549-1, C10/C11, VFR 2019, IEC 62116, IEC 61727, IEC 60068, IEC 61683, CEI 0-21, N 4105, TOR Erzeuger G98/G99, G100, AS 4777, UNE 217001, UNE 206007, PO12.2								

* 1 Inverter with 2 battery ports, each with max. 25A.

* 2 For single battery port connected, the maximum power is 15kW. When two ports are used, the power can reach 30kW.

* 3 The backup function is ready by using the SYN 100-XH-30 device

* 4 AFCI function need to be activated after installation.

MID 33~40K TL3-X



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

Datasheet	MID 33KTL3-X	MID 36KTL3-X	MID 40KTL3-X
Input data (DC)			
Max. recommended PV power (for module STC)	49500W	54000W	60000W
Max. DC voltage		1100V	
Start Voltage		250V	
Normal Voltage		600V	
MPPT voltage range		200-1000V	
No. of MPP trackers	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	33000W	36000W	40000W
Max. AC apparent power	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	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)		580/430/230mm	
Weight	30kg	31kg	31kg
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, VDE 0126, Greece, EN 50549, C10/C11, UTE C 15-712, IEC 62116, IEC 61727, IEC 60068, IEC 61683, CEI 0-21, CEI 0-16, N 4105, TOR Erzeuger, G98/G99, G100, AS 4777, UNE 217001, UNE 206007, KSC 8565, NTS TypeA			

* 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 33~50K TL3-X2



- Maximum string input current 16A
- Type II SPD on DC and AC side
- I/V curve scanning
- Intelligent string monitoring
- AFCI function ready

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Datasheet	MID 33KTL3-X2	MID 36KTL3-X2	MID 40KTL3-X2	MID 50KTL3-X2
Input data (DC)				
Max. recommended PV power (for module STC)	49500W	54000W	60000W	75000W
Max. DC voltage	1100V			
Start Voltage	200V			
Normal Voltage	600V			
MPPT voltage range	200-1000V			
No. of MPP trackers	3	3	4	4
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	33000W	36000W	40000W	50000W
Max. AC apparent power	36600VA	40000VA	44400VA	55500VA
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	55.5A	60.6A	67.3A	84.1A
Adjustable power factor	0.8leading...0.8lagging			
THDi	<3%			
AC grid connection type	3W+N+PE			
Efficiency				
Max. efficiency	98.5%	98.8%	98.8%	98.8%
European efficiency	98.3%	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			
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	34kg	34kg	38kg	38kg
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, VDE 0126, Greece EN 50549-1, C10/C11, UTE C 15-712, IEC 60068, IEC 61683, CEI 0-21, N 4105, TOR Erzeuger, G98/G99, G100, UNE 217001, UNE 206007, 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.

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

GROWATT · PRODUCT

Datasheet	MAX 50KTL3 LV	MAX 60KTL3 LV	MAX 70KTL3 LV	MAX 80KTL3 LV
Input data (DC)				
Max. recommended PV power (for module STC)	75000W	90000W	105000W	120000W
Max.DC voltage	1100V			
Start voltage	250V			
Nominal voltage	585V	585V	600V	600V
MPPT voltage range	200V-1000V			
No. of 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*)	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			
AC/DC surge protection	Type II / Type II			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
Grid monitoring	Yes			
Anti-islanding protection	Yes			
Residual-current monitoring unit	Yes			
String monitoring	Yes			
Anti PID function	Optional			
AFCI protection*	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/4G	Yes/Yes/Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes/Optional			

CE, VDE 0126, Greece, EN 50438, EN 50549, C10/C11, VFR 2019, IEC 62116, IEC 61727, IEC 60068, IEC 61683, CEI 0-21, CEI 0-16, N4105, DRRG, G98/G99, G100, NRS 097-2-1, MEA, PEA, KSC 8565

* 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, IEC 62116, IEC 61727, CQC, VDE 0126, VFR 2019, EN 50549-1/2, C10/C11, UNE 206007, G99
CEI 0-21/0-16, N4105, UNE 206006, MEA, PEA, KSC 8565, VDE-AR-N4110, NTS Type C, UNE 217001: 2020

* 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

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)	6200W	7500W	8300W	9000W	9400W	10400W
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	3680VA	4000VA	4600VA	5000VA	6000VA
Nominal AC voltage (range*)	230V/ (180Vac-260Vac)					
AC grid frequency (range)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Rated. output current	16A	16A	22A	22A	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	Growatt Lithium Battery (Low voltage)					
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*2	Yes					
DC reverse polarity protection	Yes					
AC/DC surge protection	Type III / 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)	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	MC4					
Battery DC Connection	OT Terminal					
AC connection	Connector					
Display	LCD					
Interfaces:RS485/USB/CAN /Wi-Fi/GPRS	Yes/YesYes/YesYes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty: 10 years	Yes					

CE, IEC 62109, G98/G99, VDE 0126-1-1, AS 4777, CEI 0-21, VDE-AR-N 4105, UTE C 15-712, EN 50549, IEC 61727, IEC 62116, IEC 62040, C10/11, NRS 097-2-1, IEC 61000, G100, UKCA

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

*2 In built DC switch isolator is optional in Australia for SPH.

ARK LV Battery System

(ARK 2.5L-A2)



- Flexible capacity options, 2.56kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Support -10°C low temperature charging
- Easy installation with modular and stacked design
- Remote firmware upgrade



Datasheet	ARK 2.5L-A2	ARK 5.1L-A2	ARK 7.6L-A2	ARK 10.2L-A2	ARK 12.8L-A2	ARK 15.3L-A2	ARK 17.9L-A2	ARK 20.4L-A2	ARK 23.0L-A2	ARK 25.6L-A2
System demo										
Battery module	ARK 2.5L-A2 (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	25.6kWh
Nominal power*1	1.28kW	2.56kW	3.84kW	5.1kW	5.1kW	5.1kW	5.1kW	5.1kW	5.1kW	5.1kW
Max. charging/ discharging power	2.45kW	4.9kW	5.63kW	5.63kW	5.63kW	5.63kW	5.63kW	5.63kW	5.63kW	5.63kW
Nominal charge/ Discharge current	25A	50A	75A	100A	100A	100A	100A	100A	100A	100A
Max. charging/ discharging power	48A	96A	110A	110A	110A	110A	110A	110A	110A	110A
Dimension (W/D/H)	650/260/185mm	650/260/366mm	650/260/547mm	650/260/728mm	650/260/909mm	650/260/1090mm	650/260/1271mm	650/260/1452mm	650/260/1633mm	650/260/1814mm
Weight	28kg	56kg	84kg	112kg	140kg	168kg	196kg	224kg	252kg	280kg
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*2									
Operation temperature	-10~50°C									
Humidity	5%-95%									
Features										
DoD	90%									
Cycle life	6000+									
Communication port	CAN/RS485 (Optional)									
Warranty	10 years									
IEC 62619, IEC 62040, CE, RoHS, UN 38.3										

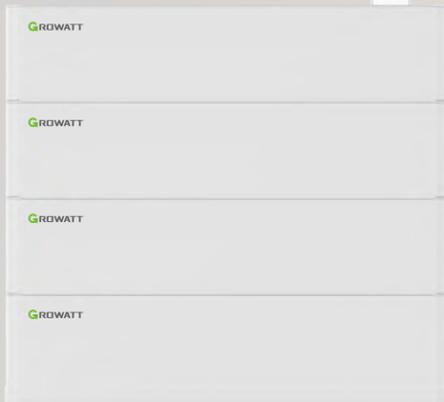
*1 Depend on the max. battery charge/discharge power of the inverter.

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

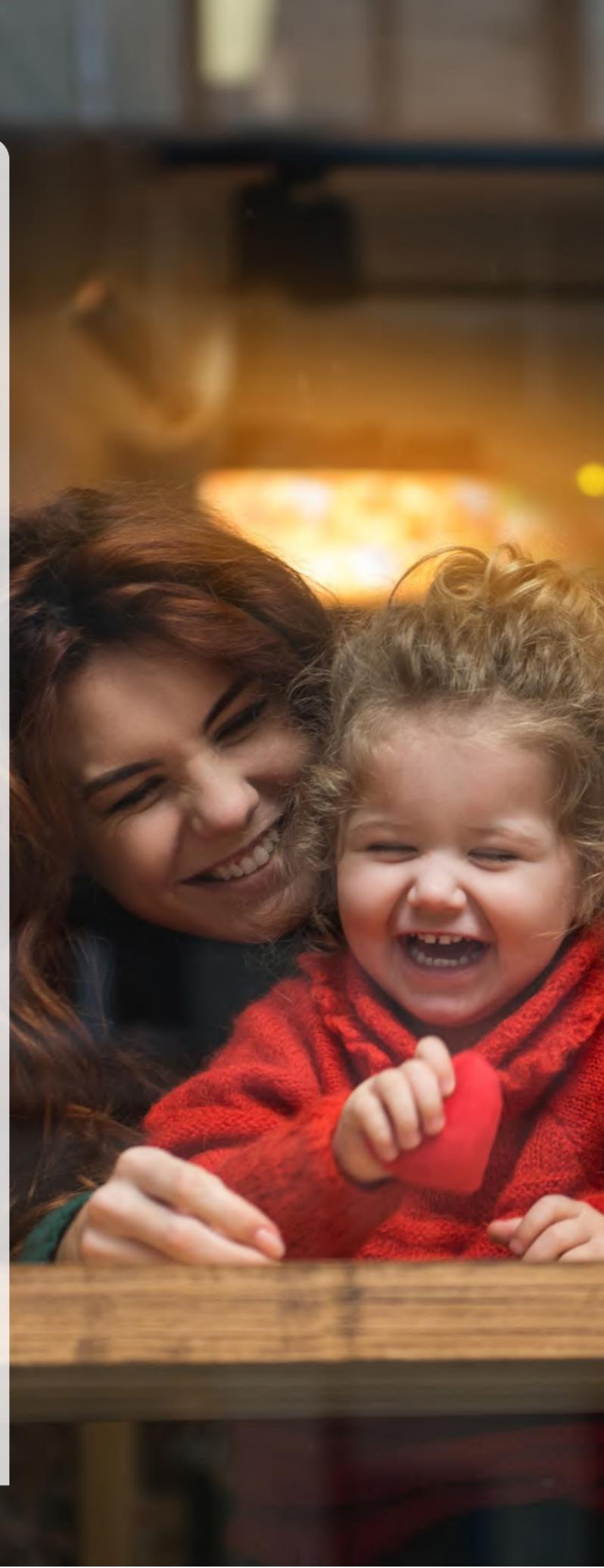
* Nominal charge/discharge current and power derating will occur related to Temperature and SOC.

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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, 40kg)									
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
Nominal power*1	3kW	6.1kW	8.1kW	8.1kW	8.1kW	8.1kW	8.1kW	8.1kW	8.1kW	8.1kW
Nominal charge/discharge current	60A	120A	160A	160A	160A	160A	160A	160A	160A	160A
Peak power	4.6kW@3s	9.3kW@3s	9.3kW@3s	9.3kW@3s	9.3kW@3s	9.3kW@3s	9.3kW@3s	9.3kW@3s	9.3kW@3s	9.3kW@3s
Dimension (W/D/H)*2	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	42kg	82kg	122kg	162kg	202kg	242kg	282kg	322kg	362kg	402kg
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*3									
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 :10 years	Yes									
CE, ROHS, UL1973+FCC, UN 38.3+PI965										

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

*2 The system dimension is included with the battery base.

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

• Nominal charge/discharge current and power derating will occur related to Temperature and SOC.

• 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.

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



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	ARK HV Battery System (7.68kWh~25.6kWh)					
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 III / 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*2	<13W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0~100%					
Altitude	3000m					
DC connection	H4 / MC4 (Optional)					
AC connection	AC plug					
Display	LCD+LED					
Interfaces: RS485/CAN/USB	Yes					
Monitor : 4G/WIFI/GPRS	Optional					
Warranty: 10 years	Yes					

CE, IEC 62109, IEC 62040, VDE-AR-N 4105, VDE 0126, UTE C 15-712, C10/C11, EN 50549, CEI 0-21, CEI 0-16, IEC 62116, IEC 61727, AS/NZS 4777, G98, G100, TOR Erzeuger, IEC 60068, IEC 61683, UKCA

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

*2 When the PV or the battery are normally accessed, the AC SPS is in the shutdown state. At this time, the standby power consumption is less than 13W. When there is no PV and battery accessed, the AC SPS assists the power supply and the standby loss on the AC side will be larger than 13W.

ARK HV Battery System

(ARK 2.5H-A2)



- Flexible capacity options, 5.12kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Support -10°C low temperature charging
- Easy installation with modular and stacked design
- Remote firmware upgrade



Datasheet	ARK 5.1H-A2	ARK 7.6H-A2	ARK 10.2H-A2	ARK 12.8H-A2	ARK 15.3H-A2	ARK 17.9H-A2	ARK 20.4H-A2	ARK 23.0H-A2	ARK 25.6H-A2
System demo									
Battery module	ARK 2.5H-A2 (2.56kWh, 51.2V, 27kg)								
Number of modules	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
Nominal power*1	2.56kW	3.84kW	5.12kW	6.4kW	7.68kW	8.96kW	10.24kW	11.52kW	12.8kW
Max. charging/ discharging power	4.92kW	7.37kW	9.83kW	12.29kW	14.75kW	17.2kW	19.66kW	22.12kW	24.58kW
Nominal charge/ Discharge current	25A	25A	25A	25A	25A	25A	25A	25A	25A
Max. charging/ discharging current	48A	48A	48A	48A	48A	48A	48A	48A	48A
Dimension (W/D/H)*2	650/260/555mm	650/260/740mm	650/260/925mm	650/260/1110mm	650/260/1295mm	650/260/1480mm	650/260/1665mm	650/260/1850mm	650/260/2035mm
Weight	64kg	91kg	118kg	145kg	172kg	199kg	226kg	253kg	280kg
General									
Battery type	Cobalt Free Lithium Iron Phosphate (LFP)								
DoD	90%								
Cycle life	6000+								
Standard charge/ discharge current	25A/0.5C								
IP protection	IP65								
Installation	Wall-mounted or floor installation*3								
Operation temperature	-10~50°C								
Humidity	5%~95%								
Warranty	10 years								
BMS Controller									
HVC 60050-C2									
Dimension (W/D/H)	650/260/185mm								
Weight	8.5kg								
Input/Output voltage range	90~585V								
Communication port	CAN								
IEC 62619, IEC 62040, IEC 62477, CE, RoHS, UN 38.3									

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

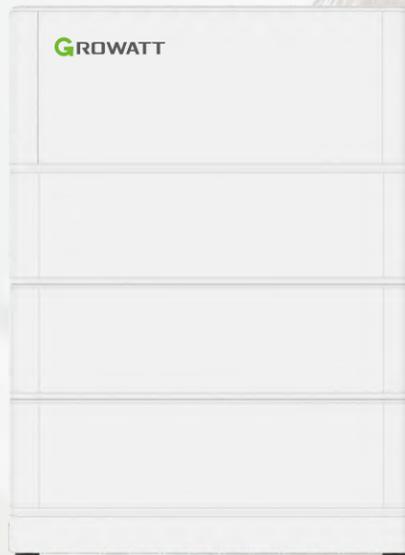
*2 Include BMS controller.

*3 The battery base and bracket are optional for ARK HV battery.

* Nominal charge/discharge current and power derating will occur related to Temperature and SOC.

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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



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	Yes								
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								
IEC 62619(Cell&Pack), CE, CEC, RCM, UN 38.3									

*1 Include BMS controller.

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

*3 MIN 2500~6000TL-XH support 2~7 pcs battery modules in series.

*4 MOD 3000~10000TL3-XH (non-BP version) support 3~10 pcs battery modules in series.

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

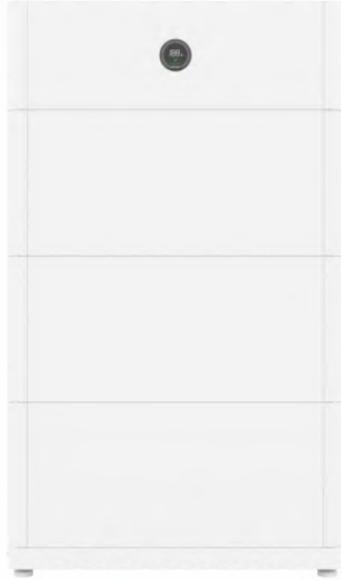
*6 Battery discharge: -10°C ~ 50°C, battery charge: 0°C ~ 50°C.

* 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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APX HV Battery

(APX 5.0-30.0P-S0)



- Flexible capacity options, 5kWh to 30kWh
- Module level energy optimization
- Support to mix new and old battery modules in one system
- Easy installation with modular and stacked design
- Long lifespan, 10 years warranty



System Model	APX 5.0P-S0	APX 10.0P-S0	APX 15.0P-S0	APX 20.0P-S0	APX 25.0P-S0	APX 30.0P-S0
System demo						
Power module	APX 55027-P0					
Number of power modules	1					
Battery module	APX 5.0P-B1					
Battery module energy	5kWh					
Number of battery modules	1	2	3	4	5	6
Energy capacity	5kWh	10kWh	15kWh	20kWh	25kWh	30kWh
Nominal power*1	2.5kW	5kW	6.2kW	6.2kW	6.2kW	6.2kW
Peak output power*1	4kW,60s	8kW,60s	10kW, 60s	10kW, 60s	10kW, 60s	10kW, 60s
Dimension (W/D/H)*2	690/185/575mm	690/185/870mm	690/185/1165mm	690/185/1460mm	690*2/185/1165mm	690*2/185/1165mm
Weight*2	62kg	112kg	162kg	212kg	265kg	315kg
Nominal voltage (single phase system)	450V					
Operating voltage range (single phase system)	380V~550V					
Battery type	Cobalt Free Lithium Iron Phosphate (LFP)					
Ingress protection	IP66					
Installation	Wall-mounted or Floor installation*3					
Operating ambient temperature	-10°C~50°C					
Relative humidity	5%~95%					
Cooling	Natural					
Altitude	≤4000m					
DOD	90%					
Warranty	10 years					
Power module	APX 55027-P0					
Dimension (W/D/H)	690/185/220mm					
Weight	10kg					
Maximum current	17A					
Peak current	27A,60s					
Max. output power	6.2kW					
Compatible inverters	MIN 2500-6000TL-XH					
Communication port	CAN/RS485					
Monitoring parameters	SOC, system voltage, current, cell voltage, cell temperature, PCBA temperature					
Battery module	APX 5.0P-B1					
Nominal energy	5kWh					
Nominal voltage	385V					
Operating voltage range	330-450V					
Dimensions (W/D/H)	690/185/295mm					
Weight	50kg					
IEC62040, IEC62477, IEC62619, CE, RCM, VDE2510-50, UKCA, UN38.3						

*1 The max. charge/discharge power of APX 55027-P0 is 6.2kW, also the max. charge/discharge power of the whole system is limited by the max. charge/discharge power of the inverter and the battery capacity.

*2 Include power module(APX 55027-P0) and Battery Base.

*3 Floor installation requires extra base (W/D/H=690/185/60mm). Wall-mounted installation requires extra wall bracket.

* Nominal charge/discharge current and power derating will occur related to Temperature and SOC.

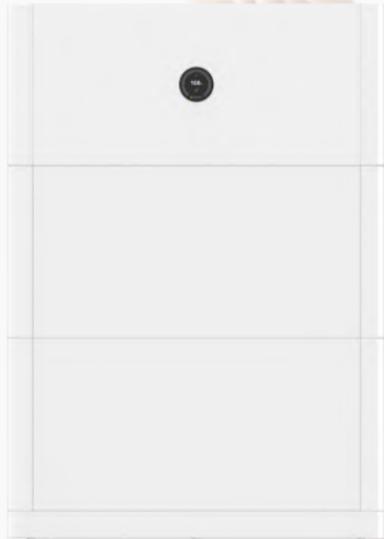
* MIN 2500-6000TL-XH need a firmware update to work with APX 5.0-30.0P-S0.

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

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APX HV Battery

(APX 5.0-30.0P-S1, APX 5.0-30.0P-S2)



- Flexible capacity options, 5kWh to 30kWh
- Module level energy optimization
- Support to mix new and old battery modules in one system
- Easy installation with modular and stacked design
- Long lifespan, 10 years warranty

System Model	APX 5.0P	APX 10.0P	APX 15.0P	APX 20.0P	APX 25.0P	APX 30.0P
System demo						
Power module	APX 98020-P1/APX 98034-P2					
Number of power modules	1					
Battery module	APX 5.0P-B1					
Battery module energy	5kWh					
Number of battery modules	1	2	3	4	5	6
Energy capacity	5kWh	10kWh	15kWh	20kWh	25kWh	30kWh
Max. output power*1	2.5kW	5kW	7.5kW	7.5kW	7.5kW	7.5kW
Peak output power*1	4kW,60s	8kW,60s	12kW,60s	12kW,60s	12kW,60s	12kW,60s
Max. output power*2	2.5kW	5kW	7.5kW	10kW	12.5kW	15kW
Peak output power*2	4kW,60s	8kW,60s	12kW,60s	16kW,60s	20kW,60s	20kW,60s
Dimension (W/D/H)*3	690/185/650mm	690/185/945mm	690/185/1240mm	690/185/1535mm	690*2/185/1240mm	690*2/185/1240mm
Weight*3	68kg	118kg	168kg	218kg	271kg	321kg
Nominal voltage (three phase system)	650V					
Operating voltage range (three phase system)	600V~980V					
Battery type	Cobalt Free Lithium Iron Phosphate (LFP)					
Ingress protection	IP66					
Installation	Wall-mounted or Floor installation*4					
Operating ambient temperature	-10°C~50°C					
Relative humidity	5%~95%					
Cooling	Natural					
Altitude	≤4000m					
DOD	90%					
Warranty	10 years					
Power module	APX 98020-P1			APX 98034-P2		
Dimension (W/D/H)	690/185/295mm					
Weight	16kg					
Communication port	CAN/RS485					
Maximum current	13A			26A		
Peak current	20A,60s			34A,60s		
Max. output power	7.5kW			15kW		
Compatible inverters	MOD 3000-10000TL3-XH(BP)			MOD 3000-10000TL3-XH(BP) / MID 11-30KTL3-XH		
Monitoring parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature					
Battery module	APX 5.0P-B1					
Nominal energy	5kWh					
Nominal voltage	385V					
Operating voltage range	330-450V					
Dimensions(W/D/H)	690/185/295mm					
Weight	50kg					

IEC62040, IEC62477, IEC62619, CE, RCM, VDE2510-50, UKCA, UN38.3

* 1. 2 When using different power modules, the max. charge/discharge power of the battery system is different, APX 98020-P1 is 7.5 kW, APX 98034-P2 is 15kW, also the max. charge/discharge power of the whole system is limited by the max. charge/discharge power of the inverter and the battery capacity.

* 3 Include power module (APX 98020-P1/APX 98034-P2) and Battery Base.

* 4 Floor installation requires extra base (W/D/H=690/185/60mm). Wall-mounted installation requires extra wall bracket.

* Nominal charge/discharge current and power derating will occur related to Temperature and SOC.

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

* APX 5.0-30.0P-S1 system corresponds to APX 98020-P1 power module, APX 5.0-30.0P-S2 system corresponds to APX 98034-P2 power module, and the battery modules are all APX 5.0P-B1.

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WIT 50-100K -HU



- Scalable system configuration, extend to 300kW
- Support UPS function and black start
- 100% unbalanced load when backup
- 110% continuous AC overloading capacity
- Support remote control of DG
- Multiple MPPTs input
- Grid-support functions

GROWATT · PRODUCT

Datasheet	WIT 50K-HU	WIT 63K-HU	WIT 75K-HU	WIT 100K-HU
Input data (PV)				
Max. recommended PV power(for module STC)	109.2kW	124.8kW	156kW	156kW
Start voltage			195V	
Max. Input Voltage			1100V	
MPPT nominal voltage/range			550V,180V~800V	
Max. input current per MPP tracker			32A	
Max. short-circuit current per MPP tracker			40A	
No. of PV strings per MPP tracker			2	
No. of MPP trackers	7	8	10	10
Output data (AC)				
AC nominal power	50kW	63kW	75kW	100kW
Max. AC apparent power	55kVA	69.3kVA	82.5kVA	110kVA
Nominal AC voltage/range			380/400/415V,-15%~+10%	
Nominal AC grid frequency/range			50/60Hz,45-55Hz/55-65Hz	
Max. output current	83.3A	105A	125A	166.7A
Adjustable power factor			-1...+1	
THDi			<3%	
AC grid connection type			3P3W+PE/3P4W+PE	
Input data (AC)				
AC nominal power	100kW	126kW	150kW	200kW
Max. AC apparent power	100kVA	126kVA	150kVA	200kVA
Nominal AC voltage/range			380/400/415V,-15%~+10%	
Nominal AC grid frequency/range			50/60Hz,45-55Hz/55-65Hz	
Max. input current	151.5A	190.9A	227.3A	303A
Battery data (DC)				
Continuous charging and discharging power	56.7kW	71.4kW	85.1kW	113.5kW
Battery voltage range			600-1000V (for 3P3W) / 680-1000V (for 3P4W)	
Recommended battery voltage			768V	
Max charging and discharging current	83.3A	105A	125A	167A
BMS communication			RS485/CAN	
Backup power (AC)				
Rated AC output power	50kW	63kW	75kW	100kW
Max. AC apparent power	60kVA	75.6kVA	90kVA	120kVA
Rated AC output voltage			220V/230V/240V(L-N),380V/400V/415V(L-L)	
Nominal AC output frequency			50/60 Hz	
Load connection			3W+N+PE	
Max. output current	90.9A	114.5A	136.4A	181.8A
THDv			<3% (Linear load)	
Load unbalance			100% three-phase unbalanced	
Overload capacity			≤110%: Continues; 110%~120%: <1min; >120%: 200ms	
On/off grid transfer time			≤20ms	
Efficiency				
Max. efficiency			98.2%	
Protection devices				
PV reverse polarity protection			Yes	
Battery reverse protection			Yes	
AC/DC surge protection			Type II	
Insulation resistance monitoring			Yes	
Ground fault monitoring			Yes	
Grid monitoring			Yes	
Residual-current monitoring unit			Yes	
AC short-circuit protection			Yes	
Strings monitoring			Yes	
Anti-islanding protection			Yes	
PID protection			Yes	
AFCI function			Yes	
General				
Dimensions (W / H / D)			820/1350/510mm	
Weight	153kg	153kg	160kg	160kg
Operating temperature range			-30 °C~60 °C (> 50°C, derating)	
Relative humidity			0~100%	
Altitude			4000m	
Topology			Transformerless	
Cooling			Smart air cooling	
IP degree			IP66	
Display			OLED+LED/WiFi+APP	
Interfaces: RS485/CAN/USB			Yes	
Interfaces: WIFI/LAN			Opt	
Warranty (5/10 years)			Yes/Opt	

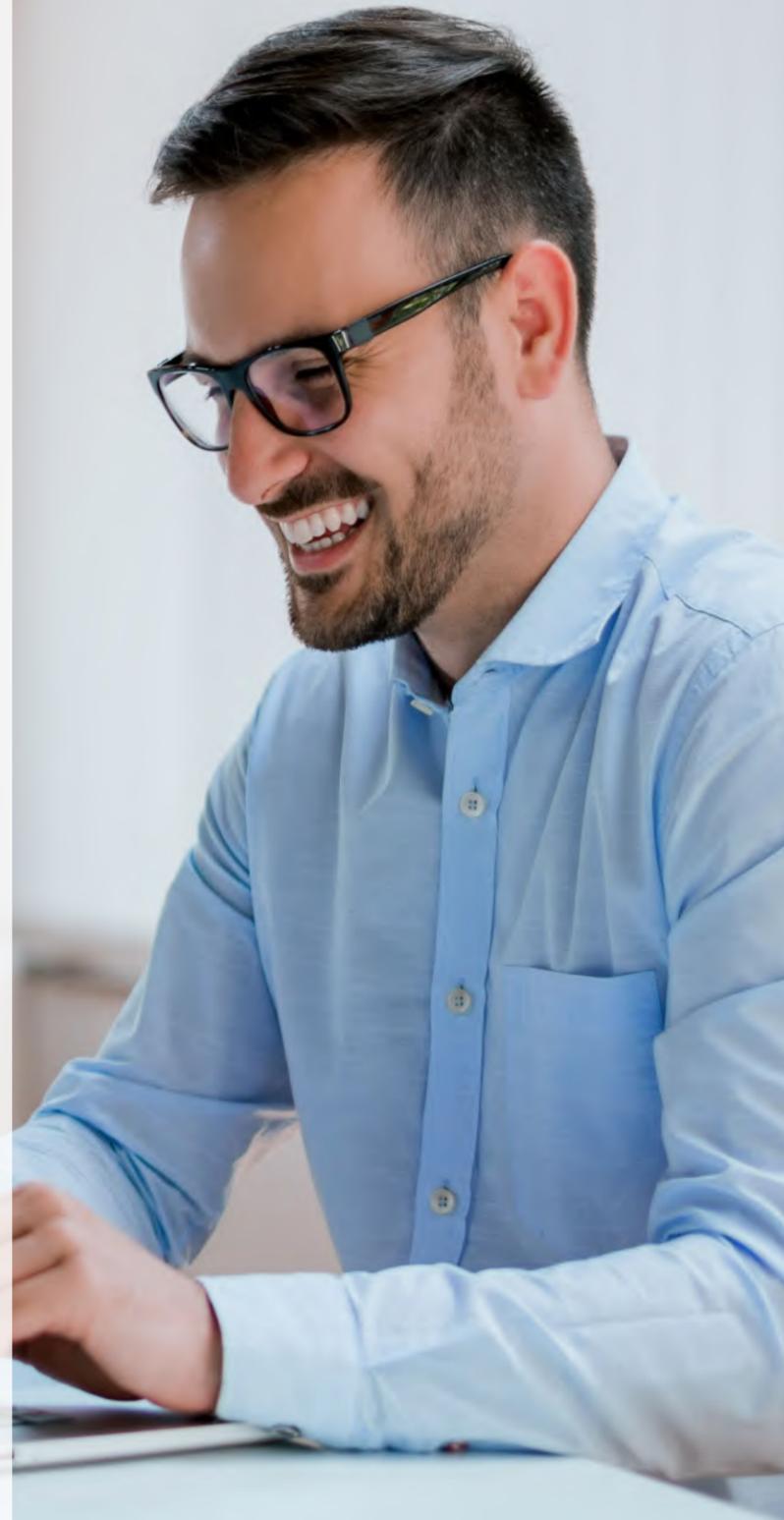
CE, IEC 62116, IEC 61727, G99:2022, EN 50549-1, VDE-AR-N 4105, NRS 097-2-1

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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 (No barrier wall) / 30m(One wall blocking)
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	

Shine WiLan-X2



- Online monitoring and maintenance
- Integrated with WLAN, LAN and Bluetooth modules
- Built-in memory for up to one month of data
- Local configuration and firmware upgrade function



Datasheet	ShineWiLan-X2
Wireless parameters	
Wireless standard	802.11 b/g/n BLE:4.2
Wireless frequency range	2.4GHz
Transmit power	802.11b: 19.5±2 dBm (@11Mbps) 802.11g: 14±2dBm (@54Mbps) 802.11n: 18±2dBm (@HT20, MCS0) 802.11n: 13±2dBm (@HT20, MCS7) BLE:0±2dBm(@1Mbps)
Receiver sensitivity	CCK, 1 Mbps : -97dBm±2dBm CCK, 11 Mbps: -88dBm±2dBm 6 Mbps (1/2 BPSK): -92dBm±2dBm 54 Mbps (3/4 64-QAM): -75dBm±2dBm HT20, (MCS0) : -92±2dBm HT20, (MCS7) : -72±2dBm HT40, (MCS0) : -89±2dBm HT40, (MCS7) : -69±2dBm BLE:-93±2dBm (@1M,30.8%PER)
Hardware parameters	
Data interface	USB
Nominal voltage	5V(+/-5%)
Typical power consumption	2.5W
Display	LED
Working temperature	-30°C ~ +65°C
Storage temperature	-40°C ~ +70 °C
Protection grade	IP65
Application parameters	
Supported servers	ShineServer
Inverter communication	Modbus RTU
Server communication	MQTT
Supported networks	2.4GHz WiFi, Bluetooth 4.2
User configuration interface	APP Configuration
Data transmission interval	5 Minutes
Default server URL	mqtt.growatt.com
Theoretical communication distance	LAN:100m (Cat5e) WiFi:50m (without obstruction)
General data	
Dimensions (W/H/D)	47/152/28mm
Weight	94g
CE, UKCA, SAA, RoHS	

Growatt ShineMaster -X



- Up to 48 inverters control
- Multiple communication methods
- Integrated with lightning protection module
- SCADA control available with MODBUS TCP and IEC 104

GROWATT · PRODUCT

Parameters	ShineMaster-X	ShineMaster4G-X
Device management		
Suggested number of device connected	48*	
LAN	LAN x 1, RJ45, 10 / 100 Mbps (Built-in 1.5KV magnetic isolated protection)	
RS485	COM x 4, A+, B-, 9600 / 38400 bps, 500m (8, N, 1)	
SIM card	Ethernet	2G/3G/4G
Digital / Analog Input / Output	DI x 5, DO x 2, AI x 4	
Communication protocol		
Ethernet	Modbus-TCP, IEC 60870-5-104	
RS485	Modbus-RTU	
Display		
LED	LED x 5-Power, RUN/FAULT, Bluetooth, LAN, 4G	
WEB	Embedded Web	
USB	USB 2.0 x 1 (HOST)	
Environment		
Operating temperature range	-30°C~65°C (-22°F~149°F)	
Storage temperature	-40°C~70°C (-40°F~158°F)	
Relative humidity (Non-condensing)	5%~95%	
Max. operating altitude	4,000m (13,123 ft.)	
Electrical		
AC power supply	100~240 Vac, 50 Hz / 60 Hz	
DC power supply	24 V, 1A	
Mechanical		
Dimensions (W/H/D)	232/40/140mm	
Weight	1.2kg	
Protection degree	IP20	
Installation options	Wall Mounting, DIN Rail Mounting, Tabletop Mounting	
CE, Rohs, FCC, UL 62368		

* The max. number could up to 124pcs.
All specifications are subject to change without notice.

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					

Shine SEM-XA-R



- Online monitoring and export limitation for the whole system
- Up to 48 units of inverters in monitoring
- Support Ethernet, RS485 communication
- IP66 protection degree

Datasheet	ShineSEM-XA-R
Communication	
RS485	Yes
Ethernet	Yes
PLC	No
Ring network switch	No
Max. inverter number	48 PCS*
Communication distance	RS485: 500m Ethernet cable: 50m
General Data	
Dimensions (W/H/D)	352/430/109mm
Weight	8.7kg
Operation temperature range	-22°F to +149°F (-30°C~65°C)
Protection rating	IP66
Relative humidity	5%-95%, no-condensing
Placement	Indoor
Altitude	4000m
Meter Data*	
Nominal input voltage	380/400V
Nominal input frequency	50/60Hz
Grid connection	3W+N+PE
CE, RoHS	

- * CT model is selected according to the maximum current of system's grid side.
- * CTs need to be purchased additionally from Growatt. The wire from the CT to the meter need to be prepared by the installer.
- * For on-grid inverter parallel system, the SEM- XA- R supports monitoring of up to 48 units, if export limitation function is needed, SEM-XA-R supports up to 15 units.
- * For the MID-XH parallel system, SEM-XA-R supports up to 9 units in parallel.
- * For the WIT-HU parallel system, SEM-XA-R supports up to 6 units in parallel.



NANYANG 100MW HILL PLANT

100MW ◀

Henan, China ◀

Growatt 40000TL3-S ◀



UKRAINE 5MW SOLAR PLANT

▶ 5MW ▶ Ukraine ▶ MAX 50KTL3 LV



NETHERLANDS 500KW SOLAR SYSTEM



500kW ◀
Netherlands ◀
MAX 60KTL3 LV ◀



THAILAND 134MW SOLAR PLANT

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



GERMANY SOLAR STORAGE SYSTEM

▶ 25kW ▶ Germany ▶ MID 25KTL3-XH / APX HV Battery System / THOR EV Charger



GERMANY SOLAR STORAGE SYSTEM

▶ 25kW ▶ Germany ▶ MID 25KTL3-XH / APX HV Battery System



GERMANY SOLAR STORAGE SYSTEM

▶ 60kW
▶ Germany
▶ MID 30KTL3-XH*2
APX HV Battery System



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

