

OUR STRENGTH IN DATA



42+
Representative Sites



180+
Countries With Installed Systems



2.1M+
Cloud Platform Users



1,100+
R&D Engineers



167+
Patents Obtained

GLOBAL NETWORK



HONORS & AWARDS



Residential
Inverter Supplier



PV Inverter Supplier



Hybrid Inverter Supplier

*Source: S&P Global Commodity Insights, Wood Mackenzie



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 INVERTER SERIES



Residential on-grid inverters



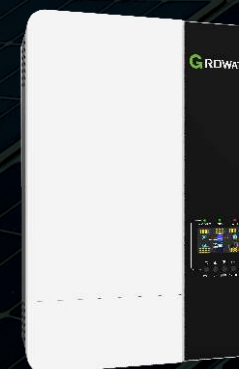
Commercial on-grid inverters



Large commercial and utility grade on-grid inverters



Residential storage inverters



Residential off-grid inverters



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	Optional						
General data							
Dimensions (W / H / D)	274/254/138mm						
Weight	6kg	6kg	6kg	6kg	6.2kg	6.2kg	6.2kg
Operating temperature range	-25°C ... +60°C						
Nighttime power consumption	< 0.5W						
Topology	Transformerless						
Cooling	Natural convection						
Protection degree	IP65						
Relative humidity	0-100%						
Altitude	4000m						
DC connection	H4/MC4(Optional)						
AC connection	Connector						
Display	OLED+LED/WIFI+APP						
Interfaces: RS485/USB/WiFi/GPRS/RF/LAN	Yes/Yes/Optional/Optional/Optional/Optional						
Warranty: 5 years / 10 years	Yes/Optional						
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.

MIN 2500~6000 TL-X



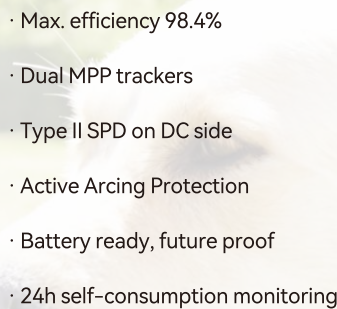
- Maximum efficiency 98.4%
- Dual MPP trackers
- Type II SPD on DC side
- Supports export control
- Touch key and OLED display
- Data storage up to 25 years



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			
AC/DC surge protection				Type III/Type II			
Insulation resistance monitoring				Yes			
AC short-circuit protection				Yes			
Ground fault monitoring				Yes			
Grid monitoring				Yes			
Anti-islanding protection				Yes			
Residual-current monitoring unit				Yes			
AFCL protection				Optional			
General data							
Dimensions (W / H / D)				375/350/160mm			
Weight				10.8kg			
Operating temperature range				-25°C ... +60°C			
Noise emission (typical)				≤35 dB(A)			
Nighttime power consumption				<1W			
Topology				Transformerless			
Cooling				Natural convection			
Protection degree				IP65			
Relative humidity				0-100%			
Altitude				4000m			
DC connection				H4/MC4(Optional)			
AC connection				Connector			
Display				OLED+LED/WIFI+APP			
Interfaces: RS485/USB/WiFi/GPRS/RF/LAN				Yes/Yes/Optional/Optional/Optional/Optional			
Warranty: 5 years / 10 years				Yes/Optional			
CE, IEC62109, VDE0126-1-1, AS4777, AS/NZS 3100, VDE-AR-N4105, CQC, IEC61683, IEC60068, IEC61727, IEC62116, INMETRO							

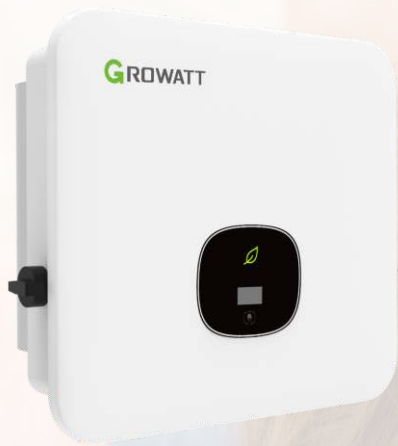
* Only the latest version with max. input current 13.5A per MPP tracker, for details please contact Growatt.
* The AC voltage and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.



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)						
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*)	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	Optional						
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							

- * Backup power function need a Backup Box accessory.
- * AFCI function need to be activated after installation.

MOD 3000~9000 TL3-X



- Max. efficiency 98.6%
- OLED and Touch button
- Type II SPD on DC and AC side
- String Monitoring
- AFCI optional



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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	Optional						
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, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger G98/G99, G100, AS4777, UNE217001, UNE206007, PO12.2							

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

MOD 3~10KTL3 -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 HV Battery System (5kWh-30kWh)							
Operating voltage range	600 V-950 V							
Max.operating current						18.5A		
Max.charge power						10000W		
Max.discharge power	3300W	4400W	5500W	6600W	7700W	8800W	9900W	11000W
Output data (AC)								
AC nominal power	3000W	4000W	5000W	6000W	7000W	8000W	9000W	10000W
Max. AC apparent power	3300VA	4400VA	5500VA	6600VA	7700VA	8800VA	9900VA	11000VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)							
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)							
Max. output current	5.0A	6.7A	8.3A	10.0A	11.7A	13.3A	15.0A	16.7A
Adjustable power factor	0.8leading...0.8lagging							
THDi	<3%							
AC grid connection type	3W+N+PE							
Output data (Backup*)								
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	Optional							
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, CEI0-21, N4105, TOR Erzeuger G98/G99, G100, AS 4777, UNE 217001, UN E206007, 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 lable 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 optional



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Datasheet	MOD 10KTL3-X	MOD 11KTL3-X	MOD 12KTL3-X	MOD 13KTL3-X	MOD 15KTL3-X
Input data (DC)					
Max. recommended PV power (for module STC)	15000W	16500W	18000W	19500W	22500W
Max. DC voltage	1100V				
Start voltage	160V				
Nominal voltage	580V				
MPPT voltage range	140V-1000V				
No. of MPP trackers	2				
No. of PV strings per MPP tracker	1	1	1/2	1/2	1/2
Max. input current per MPP tracker	13A	13A	13/26A	13/26A	13/26A
Max. short-circuit current per MPP tracker	16A	16A	16/32A	16/32A	16/32A
Output data (AC)					
AC nominal power	10000W	11000W	12000W	13000W	15000W
Max. AC apparent power	11000VA*	12100VA	13200VA	14300VA	16500VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)				
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)				
Max. output current	16.7A	18.3A	20A	21.7A	25A
Adjustable power factor	0.8leading...0.8lagging				
THDi	<3%				
AC grid connection type	3W+N+PE				
Efficiency					
MAX. efficiency	98.6%				
European efficiency	98.1%	98.1%	98.2%	98.2%	98.2%
MPPT efficiency	99.9%				
Protection devices					
DC reverse polarity protection	Yes				
DC Switch	Yes				
AC/DC surge protection	Type II / Type II				
Insulation resistance monitoring	Yes				
AC short-circuit protection	Yes				
Ground fault monitoring	Yes				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Residual-current monitoring unit	Yes				
String fault monitoring	Yes				
AFCI protection	Optional				
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, UTE C 15-712, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger G98/G99, G100, AS4777, UNE217001, UNE206007, PO12.2					

* For Belgium C10/C11, MOD 10KTL3-X max. output power is limit to 10000VA.
* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

MID 15~25K TL3-X



- Max. efficiency 98.75%
- Dual MPP trackers
- Touch key and OLED display
- Type II SPD on AC and DC side
- AFCI function optional

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Datasheet	MID 15KTL3-X	MID 17KTL3-X	MID 20KTL3-X	MID 22KTL3-X	MID 25KTL3-X
Input data (DC)					
Max. recommended PV power (for module STC)	22500W	25500W	30000W	33000W	37500W
Max. DC voltage	1100V				
Start voltage	250V				
Normal voltage	580V				
MPPT voltage range	200V-1000V				
No. of MPP trackers/strings per MPP tracker	2/2	2/2	2/2	2/2	2/3
Max.input current per MPP tracker	27A	27A	27A	27A	27A/40.5A
Max. short-circuit current per MPP tracker	33.8A	33.8A	33.8A	33.8A	33.8A/50.7A
Output data (AC)					
Rated AC output power	15000W	17000W	20000W	22000W	25000W
Max. AC apparent power	16600VA	18800VA	22000VA	24400VA	27700VA
Nominal AC voltage (range*)	230V/400V; 340-440V				
AC grid frequency; (range*)	50/60 Hz; 45~55Hz/55-65 Hz				
Max. output current	24.2A	27.4A	31.9A	35.5A	40.2A
Adjustable power factor	0.8 leading - 0.8 lagging				
THDi	<3%				
AC grid connection type	3W+N+PE				
Efficiency					
Max.efficiency	98.75%				
European efficiency	98.6%				
MPPT efficiency	99.9%				
Protection devices					
DC reverse polarity protection	Yes				
DC Switch	Yes				
AC/DC surge protection	Type II / Type II				
Insulation resistance monitoring	Yes				
AC short-circuit protection	Yes				
Ground fault monitoring	Yes				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Residual-current monitoring unit	Yes				
String monitoring	Yes				
AFCI protection	Optional				
General data					
Dimensions (W / H / D)	525/395/222mm				
Weight	23kg				
Operating temperature range	-25 °C ... +60 °C				
Self-Consumption (night)	< 1W				
Topology	Transformerless				
Cooling	Smart air cooling				
Protection degree	IP65				
Relative humidity	0~100%				
Altitude	4000m				
DC connection	H4/MC4(Optional)				
AC connection	Cable gland+OT terminal				
Display	OLED+LED/WIFI+APP				
Interfaces: RS485/USB/ WIFI/GPRS/RF/LAN	Yes/Yes /Optional/Optional/Optional/Optional				
Warranty: 5 years / 10 years	Yes/Optional				
CE, VDE 0126, Greece, EN 50549-1, C10/C11, UTE C 15-712, IEC 62116, IEC 61727, IEC 60068, IEC 61683, CEI0-21, N 4105, G98/G99, G100, 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.

MID 25~40K TL3-X



- The maximum efficiency is up to 98.8%
- Touch key and OLED display
- String monitoring
- AC&DC type II SPD
- AFCI optional

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/55~65Hz)				
Max. output current	41.9A	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	Optional				
General data					
Dimensions (W / H / D)	580/430/230mm				
Weight	30kg	30kg	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.

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 HV Battery System (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/380V230V/400V							
Efficiency								
MAX. efficiency	98.75%						98.80%	
European efficiency	98.5%							
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					Optional			
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.

MAX 50~80K TL3 LV



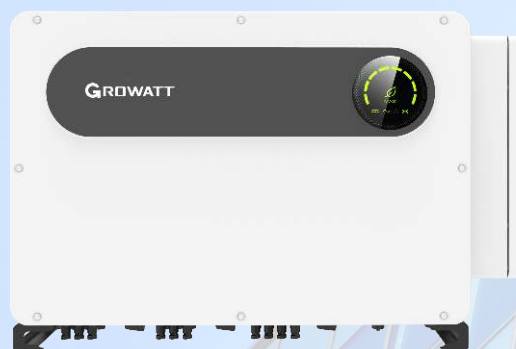
- 6 /7MPPTs
- Smart diagnosis
- High efficiency up to 99%
- Local WIFI configuration
- String monitoring
- AC&DC type II SPD
- AFCI protection

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.

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					Optional			
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.

MAX 185~253K TL3-X HV



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

GROWATT · PRODUCT

Datasheet	MAX 185KTL3-X HV	MAX 216KTL3-X HV	MAX 250KTL3-X HV	MAX 253KTL3-X HV
Input data (DC)				
Max. DC voltage	1500V			
Start voltage	500V			
Nominal voltage	1080V			
MPP voltage range	500V-1500V			
No. of MPP trackers	9	9	12	15
No. of PV strings per MPP tracker	2			
Max. input current per MPP tracker	30A			
Max. short-circuit current per MPP tracker	50A			
Output data (AC)				
AC nominal power	185KW	216KW	250KW	253KW
Max. AC apparent power	185KVA@30°C 175KVA@40°C 160KVA@50°C	216KVA@30°C 200KVA@40°C 192KVA@50°C	250KVA@30°C 230KVA@45°C 220KVA@50°C	253KVA@30°C 230KVA@45°C 220KVA@50°C
Nominal AC voltage (range*)	800V (640-920V)			
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)			
Max. output current	133.5A	155.9A	180.4A	182.6A
Adjustable power factor	0.8leading ...0.8lagging			
THDi	<3%			
AC grid connection type	3W+PE			
Efficiency				
Max. efficiency	99.0%			
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	Optional			
Anti-PID function	Optional			
LVRT	Yes			
HVRT	Yes			
Night SVG	Optional			
General data				
Dimensions (W / H / D)	1070/675/340mm			
Weight	95kg	95kg	99kg	109kg
Operating temperature range	-30°C ... +60°C			
Nighttime power consumption	<1W			
Topology	Transformerless			
Cooling	Smart air cooling			
Protection degree	IP66			
Relative humidity	0-100%			
Altitude	4000m			
DC connection	H4/MC4(Optional)			
AC connection	OT Terminal connectors (Max. 300mm²)			
Display	LED/WIFI+APP			
Interfaces: RS485/USB/PLC/4G/GPRS	Yes/Yes/Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes/Optional			
CE, IEC 62116, 61727, IEC 60068, 61683, CEA 2019, EN 50549-2, NC RFG, CEI 0-16				

CE, IEC 62116, 61727, IEC 60068, 61683, CEA 2019, EN 50549-2, NC RFG, CEI 0-16

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

WIT 50-100K TL3-H/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-H WIT 50K-HU	WIT 63K-H WIT 63K-HU	WIT 75K-H WIT 75K-HU	WIT 100K-H 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	50kW/100kW	63kW/126kW	75kW/150kW	100kW/200kW
Max. AC apparent power	55kVA/100kVA	69.3kVA/126kVA	82.5kVA/150kVA	110kVA/200kVA
Nominal AC voltage/range	380/400/415V,-15%~+10%			
Nominal AC grid frequency/range	50/60Hz,45-55Hz/55-65Hz			
Max. input current	83.3A/151.5A	105A/190.9A	125A/227.3A	166.7A/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	Opt			
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			
EN 62920-2017, IEC/EN 62477-1, IEC/EN 62109-1, IEC/EN 62109-2, IEC 62116, IEC 61727, G99:2020, EN 50549-1, VDE 4105, VDE 0124, NRS 097-2-1				

* The parameter of backup power is only available for WIT 50-100K-HU model.
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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



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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/Yes/Yes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty: 5 years / 10 years	Yes/Optional					
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

SPH 10000TL-HU



- UPS function, 10ms transition
- 1.5 DC/AC Ratio with 3 Mppts
- Up to 200A charging/discharging current
- Support DC-coupled, AC-coupled, AC-retrofit applications
- Type II Surge protection for DC and AC sides
- Support charge from diesel generator
- Support both single phase and split phase application



GROWATT · PRODUCT

Datasheet	SPH 10000TL- HU
Input data (DC)	
Max. recommended PV power (for module STC)	15000W
Max. DC voltage	525V
Start voltage	150V
MPP voltage range	150V~450V/370V
No. of MPP trackers	3
No. of PV strings per MPP tracker	2
Max. input current per MPP tracker	22A
Max. short-circuit current per MPP tracker	28A
Output data (AC)	
AC nominal power	10000W
Max. AC apparent power	10000VA
Nominal AC voltage (range*)	220V/230V/240V
AC grid frequency (range*)	50Hz/60Hz
Max. output current	50A
Adjustable power factor	0.8leading...0.8lagging
THDi	<3%
AC grid connection type	Single phase
Battery data (DC)	
Battery voltage range	40~60V
Max charging and discharging current	200A
Continuous charging and discharging power	10000W
Type of battery	Lithium /Lead-acid
Backup power (AC)	
AC nominal output power	10000W
Nominal AC output voltage	220V/230V/240V
Nominal AC output frequency	50/60Hz
Switch time	<10ms
Efficiency	
peak. efficiency	97.50%
CEC weighted efficiency	97%
MPPT efficiency	≥99.5%
Protection devices	
PV Switch	Yes
AC over current protection	Yes
AC over voltage protection	Yes
Ground fault monitoring	Yes
Grid monitoring	Yes
Anti-islanding protection	Yes
Residual-current monitoring unit	Yes
Insulation resistance monitoring	Yes
AFCI Protection	Yes
Surge protection	DC Type II / AC Type II
General data	
Dimensions (W / H / D)	440×883×254mm
Weight	48.84kg
Operating temperature range	-25°C ... +60°C with derating above 45°C
Noise emission (typical)	≤ 30 dB(A)
Self-Consumption <	< 60 W
Topology	Tranformerless
Cooling	Smart cooling
Protection degree	IP65
Relative humidity	0~100%
Altitude	2000m
DC connection	Quick Connector
Display	LCD
Interfaces: RS485/CAN/USB	Yes
Communication	WIFI/4G cellular (Optional)
Warranty(5/10 years)	Yes/Optional
CE, UKCA, G99, NRS097	

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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	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: 5 years / 10 years	Yes/Optional					
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 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

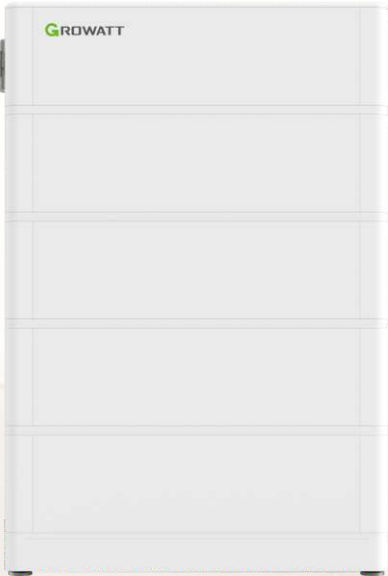


GROWATT · PRODUCT

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
Standard charge/discharge power*1	1.25kW	2.5kW	3.75kW	5kW	5kW	5kW	5kW	5kW	5kW	5kW
Standard charge/discharge current	25A	50A	75A	100A	100A	100A	100A	100A	100A	100A
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
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*3									
Features										
BMS monitoring parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature measurement									
Communication port	CAN									
Warranty(5/10 years)	Yes/Opt									
IEC 62619 (Cell&Pack), CE, CEC, RCM, 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)
*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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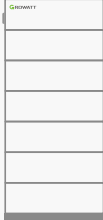
ARK HV Battery System



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

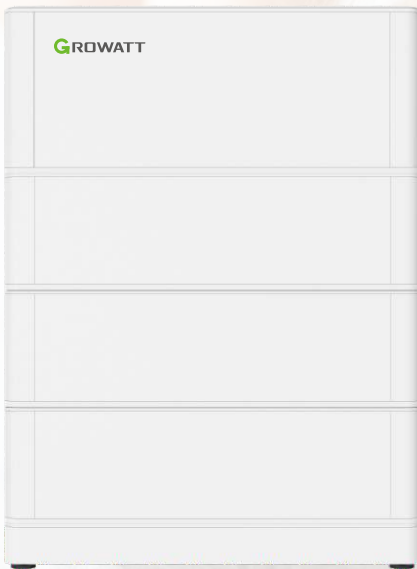


GROWATT · PRODUCT

Datasheet	ARK 7.6H	ARK 10.2H	ARK 12.8H	ARK 15.3H	ARK 17.9H	ARK 20.4H	ARK 23.0H	ARK 25.6H
System demo								
Battery module	ARK 2.5H-A1 (2.56kWh, 51.2V, 28kg)							
Number of modules	3	4	5	6	7	8	9	10
Energy capacity	7.68kWh	10.24kWh	12.8kWh	15.36kWh	17.92kWh	20.48kWh	23.04kWh	25.6kWh
Usable capacity	6.9kWh	9.21kWh	11.52kWh	13.81kWh	16.12kWh	18.43kWh	20.73kWh	23.04kWh
Standard charge/ discharge power*1	3.75kW	5kW	6.25kW	7.5kW	8.75kW	10kW	11.25kW	12.5kW
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)*2	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*3							
Operation temperature	-10~50°C*4							
Warranty(5/10 years)	Yes/Opt							
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							
IEC 62619(Cell&Pack), CE, CEC, RCM, 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
*4 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

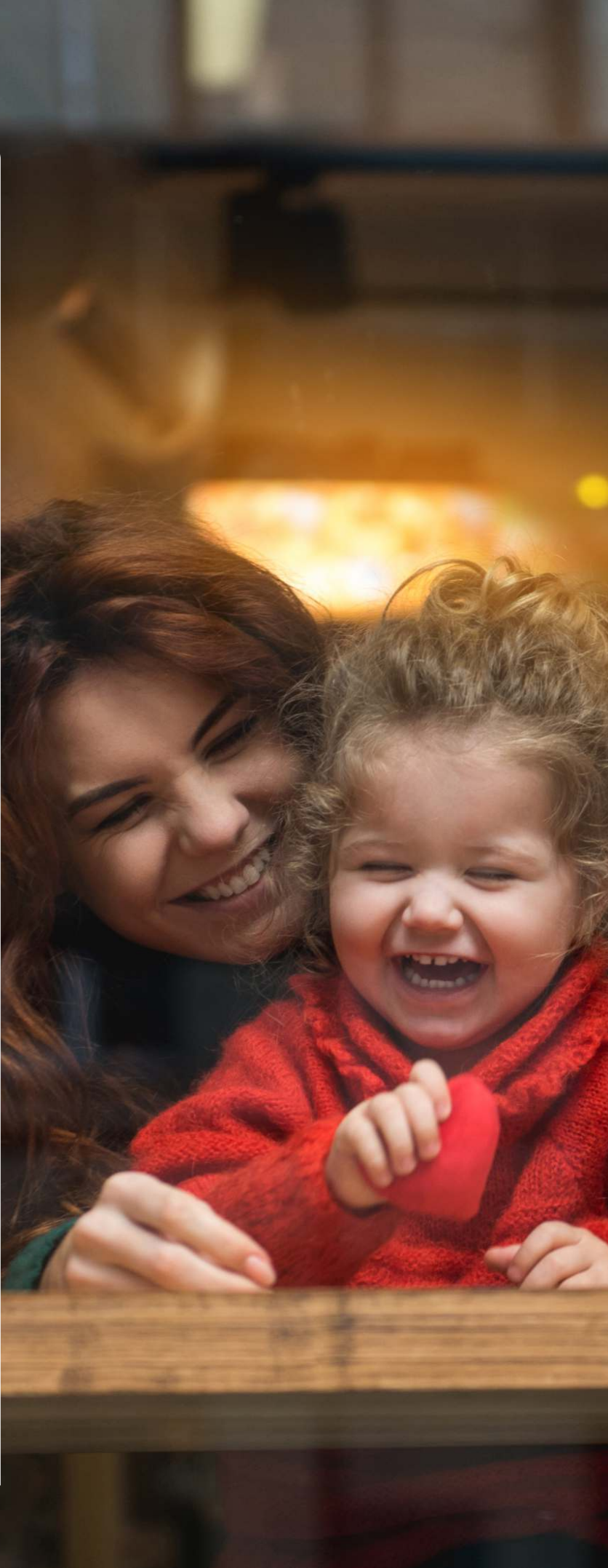
Datasheet	ARK 5.1XH	ARK 7.6XH	ARK 10.2XH	ARK 12.8XH	ARK 15.3XH	ARK 17.9XH	ARK 20.4XH	ARK 23XH	ARK 25.6XH
System demo									
Power module	BDC 95045-A1								
Number of power modules	1								
Battery module	ARK 2.5H-A1 (2.56kWh, 51.2V, 28kg)								
Number of modules in series	2	3	4	5	6	7	8	9	10
Energy 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	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 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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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



GROWATT · PRODUCT

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	6kW	6kW	6kW	6kW	6kW	6kW	6kW	6kW	6kW
Nominal charge/discharge current	60A	120A	120A	120A	120A	120A	120A	120A	120A	120A
Peak power	4.5kW@3s	9kW@3s	11.25kW@3S	11.25kW@3S	11.25kW@3S	11.25kW@3S	11.25kW@3S	11.25kW@3S	11.25kW@3S	11.25kW@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(5/10 years)	Yes/Opt									
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)
* 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.

Hope 4.8L-C1 Lithium Battery



- Compact size and easy installation
- High energy density and efficiency
- Excellent safety of LiFePO4 battery
- DoD up to 93%



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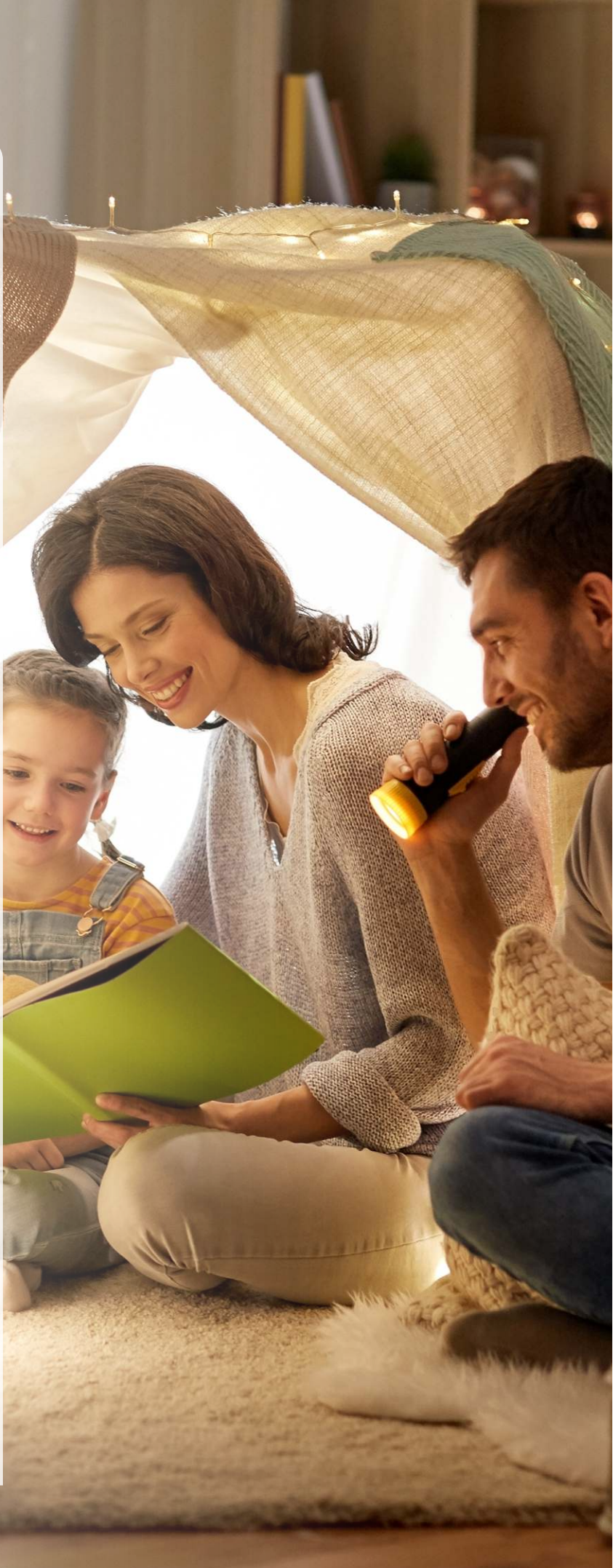
Datasheet	Hope 4.8L-C1
Battery data	
Nominal voltage	48V
Normal capacity	4.8kWh
Usable capacity	4.46kWh
Operating voltage	42 ~ 54V
Rated charging current	50A
Rated discharging current	100A
Max. discharging power	4.5kW
Peak discharging power	6.1kW/6s
Max charging power	4.5KW
General data	
Dimension (W/D/H)	442/130/480mm
Weight	40Kg
IP protection	IP20
Working temperature	-10°C~+55°C
Storage temperature	-20°C~+45°C
Features	
DOD	93%
Parallel connection	Max.16packs
Communication port	CAN/RS485
Warranty	5 Years
IEC 62619 , CE , UN 38.3	

Growatt Smart EV Charger

THOR 03AS-S, THOR 07AS-S/P
(Single Phase)



- Compatible with all branded EV
- Integration in existing & new-installed PV system
- Charge EV with 100% renewable energy by surplus solar power
- APP smart control & smart scheduling
- IP65 design for indoor or outdoor use



GROWATT · PRODUCT

Datasheet*	THOR 03AS-S (WIFI/4G)	THOR 07AS-P (WIFI/4G)	THOR 07AS-S (WIFI/4G)
Input & Output			
Input voltage	230V AC		
Input frequency	50Hz		
Output voltage	230V AC		
Max. output power	3.6KW	7KW	7KW
Max. output current	16A	32A	32A
Charging interface type	IEC 62196-2, Type 2		
Connection	Socket	Plug	Socket
Cable length	/	5m	/
Protection			
Over voltage protection	Yes		
Under voltage protection	Yes		
Over load protection	Yes		
Short circuit protection	Yes		
Earth leakage protection	Yes		
Over-temp protection	Yes		
Lightning protection	Yes		
Function and Accessory			
Ethernet	Yes		
LCD	No		
RCD	Type A + 6mA DC fault current protection (Equivalent to Type B)		
Charge activation	APP	APP/RFID(opt)	APP/RFID(opt)
LED Indicator light	Yes		
Emergency stop button	Yes		
Multiple workmodes	Fast/ PV Linkage/ Off-peak/ Load balancing		
General			
Protection degree	IP65		
Environment temperature	-20°C ~ +65°C		
Relative humidity	5-95% non-condensing		
Maximum altitude	<2000m		
Cooling	Natural cooling		
Standby power consumption	<8W		
Dimension (W/H/D)	240/380/164mm		
Weight	7kg	9.5kg	7kg
Wall-mounting bracket/ Ground-mounting pole	Yes/Opt		
CE (LVD&EMC, EN 61851-1, EN 61851-22, EN 61000-6-3, EN 61000-6-1), IEC 62196			

* Each model has 4G or WIFI version for flexible communication.

Growatt Smart EV Charger

THOR 11AS-S/P, THOR 22AS-S/P
(Three Phase)



- Compatible with all branded EV
- Integration in existing & new-installed PV system
- Charge EV with 100% renewable energy by surplus solar power
- APP smart control & smart scheduling
- IP65 design for indoor or outdoor use



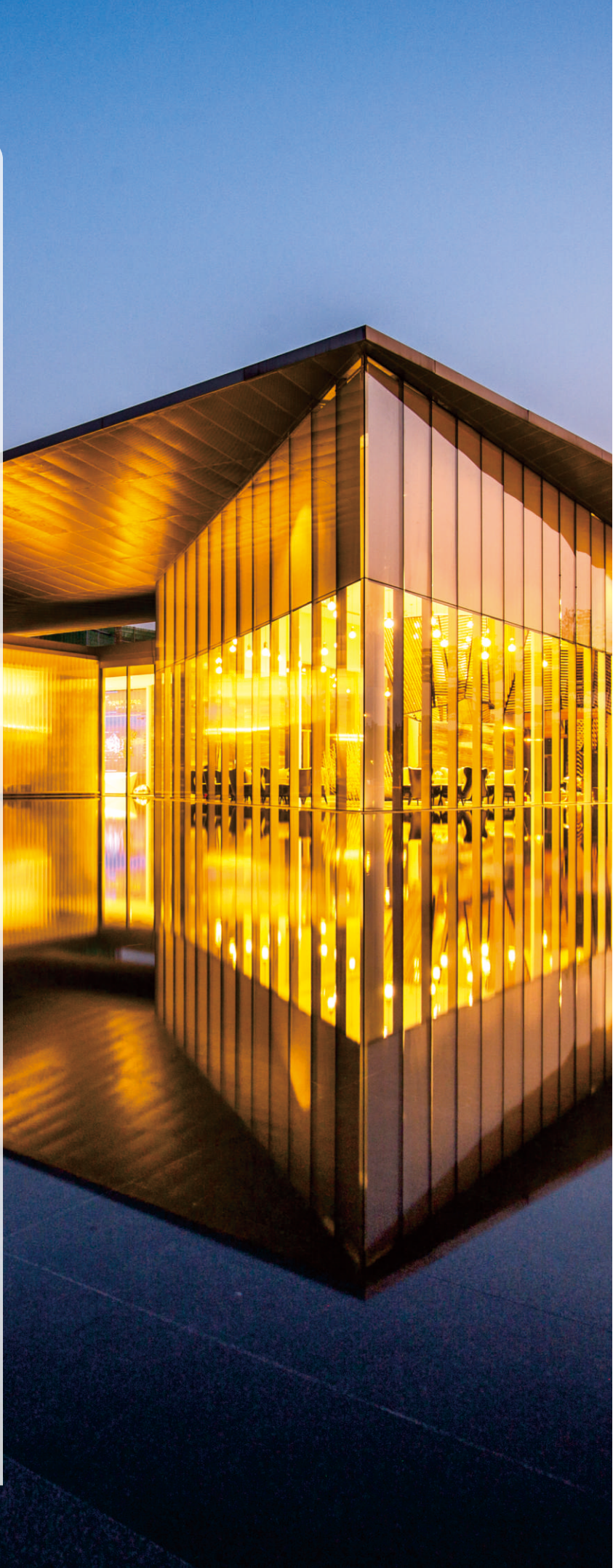
GROWATT · PRODUCT

Datasheet	THOR 11AS-P	THOR 11AS-S	THOR 22AS-P	THOR 22AS-S
Input & Output				
Input voltage	400V AC			
Input frequency	50/60Hz			
Output voltage	400V AC			
Max. output power	11KW		22KW	
Max. output current	16A		32A	
Charging interface type	IEC 62196-2, Type 2			
Connection	Plug	Socket	Plug	Socket
Cable length	5m	/	5m	/
Protection				
Over voltage protection	Yes			
Under voltage protection	Yes			
Over load protection	Yes			
Short circuit protection	Yes			
Earth leakage protection	6mA DC fault current protection			
Over-temp protection	Yes			
Lightning protection	Yes			
Function and Accessory				
Ethernet/WIFI/4G	Yes/Yes/Opt			
LCD	Yes			
RCD	6mA DC fault current protection			
Charge activation	APP/Plug&Charge/RFID			
LED Indicator light	Yes			
Emergency stop button	Yes			
Multiple workmodes	Fast/ PV Linkage/ Off-peak/ Load balancing			
Communication protocol	OCPP 1.6			
MID meter	Opt			
Installation	Floor/wall-mounting			
General				
Protection degree	IP65			
Environment temperature	-25°C ~ +50°C			
Relative humidity	5-95% non-condensing			
Maximum altitude	<2000m			
Cooling	Natural cooling			
Standby power consumption	<8W			
Dimension (W/H/D)	240/380/164mm			
Weight	12.5kg	10kg	12.5kg	10kg
Wall-mounting bracket/ Ground-mounting pole	Yes/Opt			
CE (LVD&EMC, EN 61851-1, EN 61851-22, EN 61000-6-3, EN 61000-6-1), IEC 62196				

SPF 3500~5000ES



- Integrated MPPT charge controller.
- Equalization charging function.
- Work with or without battery
- PV input voltage up to 450VDC.
- Configurable grid or solar input priority.
- Optional WIFI/GPRS remote monitoring
- Support parallel operation for capacity expansion up to 30kW.
- PV and grid power the load jointly if PV energy is insufficient.
- Flexibly schedule the Inverter charging and discharging time.



GROWATT · PRODUCT

Datasheet	SPF 3500 ES	SPF 5000 ES
Battery voltage	48VDC	
Battery type	Lithium/Lead-acid	
Inverter output		
Rated power	3500VA/ 3500W	5000VA/ 5000W
Parallel capability	Yes, 6 units maximum	
AC voltage regulation (Battery mode)	230VAC ± 5% @ 50/60Hz	
Surge power	7000VA	10000VA
Efficiency (Peak)	93%	
Waveform	Pure sine wave	
Transfer time	10ms typical, 20ms Max	
Solar charger		
Maximum PV array power	4500W	6000W
MPPT Range@operating voltage	120VDC ~ 430VDC	
Number of Independent MPP trackers/ strings per MPP tracker	1/1	
Max. input current per MPP tracker	22A	
Maximum PV array open circuit voltage	450VDC	
Maximum solar charge current	80A	100A
AC charger		
Charge current	60A	80A
AC Input voltage	230 VAC	
Selectable voltage range	170-280 VAC (For Personal Computers) ; 90-280 VAC (For Home Appliances)	
Frequency range	50Hz/60Hz (Auto sensing)	
Physical		
Protection degree	IP20	
Dimension (W/H/D)	330/485/135mm	330/485/135mm
Net weight	11.5kg	12kg
Operating environment		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Altitude	<2000m	
Operating temperature	0°C - 55°C	
Storage temperature	-15°C - 60°C	

SPF 6000 ES Plus



- Plug-and-Play terminal for PV port
- Dual MPP trackers
- Maximun PV input voltage up to 500VDC
- Configurable grid or solar input priority
- Parallel for scalability
- Dust-proof filter for harsh environment
- Two AC input terminals with integrated transfer switch



GROWATT · PRODUCT

Datasheet	SPF 6000 ES Plus
Battery voltage	48VDC
Battery type	Lithium/Lead-acid
Inverter output	
Rated power	6000VA/6000W
Parallel capability	Yes, 6 units maximum
AC voltage regulation (battery mode)	230VAC ± 5% @ 50/60Hz
Surge power	12000VA
Efficiency (peak)	93%
Waveform	Pure sine wave
Transfer time	10ms typical, 20ms Max
Solar charger	
Maximum PV array power	8000W
MPPT range @ operating voltage	120VDC ~ 450VDC
Number of independent MPP trackers/ strings per MPP tracker	2/1
Max. input current per MPP tracker	16A
Maximum PV array open circuit voltage	500VDC
Maximum solar charge current	100A
AC charger	
Charge current	80A
AC input voltage	230VAC
Selectable voltage range	170-280 VAC (For personal computers) ; 90-280 VAC (For home appliances)
Frequency range	50Hz/60Hz (Auto sensing)
Physical	
Protection degree	IP20
Dimension (W/H/D)	460/395/132mm
Net weight	13.5kg
Operating environment	
Humidity	5% to 95% Relative humidity(Non-condensing)
Altitude	<2000m
Operating temperature	0°C ~ 55°C
Storage temperature	-15°C ~ 60°C

SPF 2000~5000TL HVM



- Integrated MPPT charge controller
- Configurable grid or solar input priority
- Optional WIFI/ GPRS remote monitoring
- Parallel for scalability



GROWATT · PRODUCT

Datasheet	SPF 2000TL HVM-24	SPF 3000TL HVM-24	SPF 2000TL HVM-48	SPF 3000TL HVM-48	SPF 5000TL HVM/HVM-P
Battery voltage	24VDC		48VDC		
Battery type	Lithium/Lead-acid				
Inverter output					
Rated power	2000VA/ 2000W	3000VA/ 3000W	2000VA/ 2000W	3000VA/ 3000W	5000VA/ 5000W
Parallel capability	No				No/ Yes, 6 units maximum
AC voltage regulation (battery mode)	230VAC ± 5% @ 50/60Hz				
Surge power	4000VA	6000VA	4000VA	6000VA	10000VA
Efficiency (Peak)	93%				
Waveform	Pure sine wave				
Transfer time	10ms typical, 20ms Max				
Solar charger					
Maximum PV array power	1500W		1800W		4500W
MPPT range @ operating voltage	30VDC ~ 80VDC		60VDC ~ 115VDC		
Maximum PV array open circuit voltage	102VDC		145VDC		
Number of Independent MPP trackers/ strings per MPP tracker	1/1				
Maximum solar charge current	50A		30A		80A
Maximum efficiency	98%				
AC charger					
Charge current	30A		15A		60A
AC Input voltage	230 VAC				
Selectable voltage range	170-280 VAC (For Personal Computers) ; 90-280 VAC (For Home Appliances)				
Frequency range	50Hz/60Hz (Auto sensing)				
Physical					
Protection degree	IP20				
Dimension (W/H/D)	315/400/130mm				350/455/130mm
Net weight (kgs)	8	8.5	8	8.5	11.5
Operating environment					
Humidity	5% to 95% Relative Humidity(Non-condensing)				
Altitude	<2000m				
Operating temperature	0°C - 55°C				
Storage temperature	-15°C - 60°C				

Smart Energy Manager



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



GROWATT · PRODUCT

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

TURKEY 700kW SOLAR SYSTEM

► 700kW ► Diyarbakir ► MAX 100KTL3-X LV



TURKEY 2.5MV SOLAR SYSTEM



- ▶ 2.5MW
- ▶ Manisa
- ▶ MAX 100KTL3-X LV



TURKEY 5MV SOLAR SYSTEM



5MW ◀

Gaziantep ◀

MAX 100KTL3-X 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

