

SPH 4000~10000TL3 BH-UP

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



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Datasheet	SPH 4000TL3 BH-UP	SPH 5000TL3 BH-UP	SPH 6000TL3 BH-UP	SPH 7000TL3 BH-UP	SPH 8000TL3 BH-UP	SPH 10000TL3 BH-UP
Input data(PV)						
Max. recommended PV power (for module STC)	6000W	7500W	9000W	10500W	12000W	15000W
Max. DC voltage	1000					
Start voltage	120V					
MPP voltage range	120V-1000V/600V					
No. of MPP trackers	2					
No. of PV strings per MPP tracker	1					
Max. input current per MPP tracker	13.5A					
Max. short-circuit current per MPP tracker	16.9A					
Output data(AC)						
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Nominal AC voltage (range*)	230V/400V (310--476V)					
AC grid frequency (range)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Adjustable power factor	0.8leading...0.8lagging					
THDi	<3%					
AC grid connection type	3W+N+PE					
Battery data (DC)						
Battery voltage range	100--550V					
Max charging and discharging current	25A					
Continuous charging and discharging power	4000W	5000W	6000W	7000W	8000W	10000W
Type of battery	Lithium battery					
Backup power(AC)						
Max. AC output power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Nominal AC output voltage	230V/400V					
Nominal AC output frequency	50/60HZ					
THDv	<3%					
Switch time	<10ms					
Efficiency						
MAX. efficiency	97.6%	97.8%	98.0%	98.2%	98.2%	98.2%
European efficiency	97.0%	97.2%	97.3%	97.4%	97.4%	97.5%
Protection devices						
DC switch	Yes					
DC reverse polarity protection	Yes					
AC/DC surge protection	Type II					
Battery reverse protection	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Anti-islanding protection	Yes					
Residual-current monitoring unit	Yes					
Insulation resistance monitoring	Yes					
General data						
Dimensions (W / H / D)	505/453/198mm					
Weight	30kg					
Operating temperature range	-25 °C ... +60 °C					
Nighttime power consumption	<13W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0~100%					
Altitude	3000m					
DC connection	H4 / MC4 (Optional)					
AC connection	Connector					
Display	LCD+LED					
Interfaces: RS485/CAN/USB	Yes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty: 5 years / 10 years	Yes / Optional					
CE, IEC62109, IEC 62040, VDE-AR-N 4105, VDE 0126, UTE C 15-712, C10/C11 , EN50549, CEI 0-21, CEI 0-16, IEC62116, IEC61727, AS/NZS 4777 , G98, TOR Erzeuger						

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

MOD 3000~9000TL3-X

- Max. efficiency 98.6%
- OLED and touch button
- Type II SPD on DC and AC side
- String monitoring
- AFCI function ready



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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	200V						
Nominal voltage	580V						
MPPT voltage range	140V-1000V						
No. of MPP trackers	2						
No. of PV strings per MPP tracker	1						
Max. input current per MPP tracker	13A						
Max. short-circuit current per MPP tracker	16A						
Output data (AC)							
AC nominal power	3000W	4000W	5000W	6000W	7000W	8000W	9000W
Max. AC apparent power	3300VA	4400VA	5500VA	6600VA	7700VA	8800VA	9900VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)						
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)						
Max. output current	5.0A	6.7A	8.3A	10.0A	11.7A	13.3A	15.0A
Adjustable power factor	0.8leading...0.8lagging						
THDi	<3%						
AC grid connection type	3W+N+PE						
Efficiency							
MAX. efficiency	98.3%	98.3%	98.3%	98.3%	98.6%	98.6%	98.6%
European efficiency	97.5%	97.5%	97.5%	97.5%	98.1%	98.1%	98.1%
MPPT efficiency	99.9%						
Protection devices							
DC reverse polarity protection	Yes						
DC Switch	Yes						
AC/DC surge protection	Type II / Type II						
Insulation resistance monitoring	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Anti-islanding protection	Yes						
Residual-current monitoring unit	Yes						
String fault monitoring	Yes						
AFCI protection	Yes						
General data							
Dimensions (W / H / D)	425/387/138mm	425/387/138mm	425/387/138mm	425/387/138mm	425/387/178mm	425/387/178mm	425/387/178mm
Weight	13.5kg	13.5kg	13.5kg	13.5kg	15kg	15kg	15kg
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, CEIO-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

- 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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Primary

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
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Input data (DC)								
Max. recommended PV power (for module STC)	6000W	8000W	10000W	12000W	14000W	16000W	18000W	20000W
Max. DC voltage	1100V							
Start voltage	160V							
Nominal voltage	600V							
MPPT voltage range	140V-1000V							
No. of MPP trackers	2							
No. of PV strings per MPP tracker	1							
Max. input current per MPP tracker	16A							
Max. short-circuit current per MPP tracker	20A							

Input data (DC battery)								
Compatible battery	ARK XH Battery System(7.68kWh-25.6kWh)							
Operating voltage range	600 V-950 V							
Max.operating current	11A				18.5A			
Max.charge power	6000W				10000W			
Max.discharge power	3300W	4400W	5500W	6600W	7700W	8800W	9900W	11000W*

Output data (AC)								
AC nominal power	3000W	4000W	5000W	6000W	7000W	8000W	9000W	10000W
Max. AC apparent power	3300VA	4400VA	5500VA	6600VA	7700VA	8800VA	9900VA	11000VA*
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)							
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)							
Max. output current	5.0A	6.7A	8.3A	10.0A	11.7A	13.3A	15.0A	16.7A
Adjustable power factor	0.8leading...0.8lagging							
THDi	<3%							
AC grid connection type	3W+N+PE							

Efficiency								
MAX. efficiency	98.3%	98.3%	98.3%	98.3%	98.6%	98.6%	98.6%	98.6%
European efficiency	97.5%	97.5%	97.5%	97.5%	98.1%	98.1%	98.1%	98.1%
MPPT efficiency	99.9%							

Protection devices								
DC reverse polarity protection	Yes							
DC Switch	Yes							
AC/DC surge protection	Type II / Type II							
Insulation resistance monitoring	Yes							
AC short-circuit protection	Yes							
Ground fault monitoring	Yes							
Grid monitoring	Yes							
Anti-islanding protection	Yes							
Residual-current monitoring unit	Yes							
String fault monitoring	Yes							
AFCI protection	Yes							

General data								
Dimensions (W / H / D)	425/387/147mm	425/387/147mm	425/387/147mm	425/387/147mm	425/387/178mm	425/387/178mm	425/387/178mm	425/387/178mm
Weight	12.5kg	12.5kg	12.5kg	12.5kg	14kg	14kg	14kg	14kg
Operating temperature range	- 25°C ... +60°C							
Nighttime power consumption	< 5.5W							
Topology	Transformerless							
Cooling	Natural convection							
Protection degree	IP66							
Relative humidity	0~100%							
Altitude	4000m							
DC connection	H4/MC4(Optional)							
AC connection	Connector							
Display	OLED + LED/WIFI + APP							
Interfaces: USB/RS485/WIFI /GPRS/LAN/RF	yes/yes/Optional/Optional/Optional							
Warranty:10 years	Yes							

CE, VDE0126, Greece, EN50549, C10/C11, VFR 2019, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger G98/G99, G100, AS4777, UNE21 7001, UNE206007, PO12.2

* For Belgium C10/C11, MOD 10KTL3-XH max. battery discharge power is limit to10000W and max. output power is limit to 10000VA.

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

Growatt SPH3000~6000

- Dubbele MPP trackers
- IP65 & natuurlijke koeling
- Werkmodus programmeerbaar
- Ondersteunt exportbeperking
- Online Smart Service



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Datasheet	SPH3000	SPH3600	SPH4000	SPH4600	SPH5000	SPH6000
Ingang (PV)						
Aanbevolen maximale PV vermogen	6600W	6600W	6600W	8000W	8000W	8000W
Maximale ingangspanning				550V		
Opstartspanning				150V		
MPP spanningbereik				150V-550V /360V		
Aantal MPP-trackers				2		
Aansluitingen per MPPT				1		
Maximale ingangsstroom per MPPT				12A		
Maximale kortsluit stroom per MPPT				15A		
Uitgang (AC)						
Nominaal uitgangsvermogen	3000W	3680W	4000W	4600W	4999W	6000W
Maximale uitgangsvermogen	3000VA	3680VA	4000VA	4600VA	5000VA	6000VA
Nominale netspanning				230V		
Nominale netfrequentie (bereik)				50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)		
Maximale uitgangsstroom	16A	16A	22A	22A	22A	27A
Aanpasbare arbeidsfactor				0.8 geleiding ... 0.8 na-ijling		
THDi				<3%		
AC aansluiting				Single phase		
Batterijgegevens (DC)						
Batterij spanning bereik				42~59V		
Max laden en ontladen stroom				66A		
Max laden en ontladen vermogen				3000W		
Batterij type				Lithium / Loodzuur		
AC output vermogen (Backup)						
Max. uitgangsvermogen				3000W		
Max. schijnbaar vermogen				3000VA		
Max. uitgangsstroom				16A		
Nominaal voltage bereik				230Vac		
Nominal AC output frequency				50/60HZ		
THDv				<3%		
Schakeltijd				<0.5s		
Efficiëntie						
Maximale efficiëntie	97.5%	97.5%	97.5%	97.6%	97.6%	97.7%
Europees gewogen efficiëntie	97.0%	97.0%	97.0%	97.1%	97.1%	97.1%
Veiligheids functies						
DC werkschakelaar				Ja		
DC polariteits beveiliging				Ja		
AC/DC overspanningsbeveiliging				Ja		
Batterij omgekeerde bescherming				Ja		
AC kortsluitbeveiliging				Ja		
Aardlekbeveiliging				Ja		
Netspanningsbewaking				Ja		
Anti-eiland beveiliging				Ja		
Aardlek stroom sensor				Ja		
PV isolatiebewaking				Ja		
Algemene data						
Afmetingen (B / H / D)				450/560/180mm		
Gewicht				27kg		
Bedrijfstemperatuur				-25°C ... +60°C		
Standby verbruik				< 12 W		
Topologie				Transformatorloos		
Koeling				Passief		
Beschermingsgraad				IP65		
Relatieve luchtvochtigheid				0~100%		
Maximale bedrijfshoogte				2000m		
DC aansluitingstype				MC4/H4(opt)		
AC aansluiting				Connector		
Display				LCD+LED		
Communicatie: RS232/RS485/CAN/USB				Ja		
Monitoring: RF/WIFI/GPRS				Optioneel		
Garantie: 10 years				Ja		

CE, IEC62109, G98/G99, VDE0126-1-1, AS4777, AS/NZS 3100, CEI 0-21, VDE-AR-N4105, UTE C 15-712EN50438, EN50549, IEC 61727, IEC 62116, C10/11, UNE217007, UNE 206007, PO12.2