

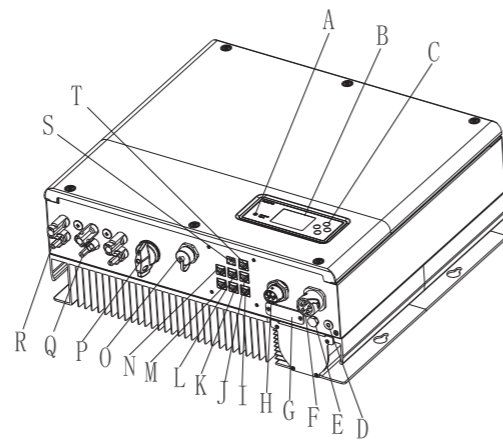
# GROWATT HYBRID INVERTER

Growatt SPH TL3 BH-UP Series is used to store energy generated by the photovoltaic cell panels or energy from grid if it is allowed in the battery, also energy can be sent to power grid through SPH TL3 BH-UP for self consumption or when Grid power is lost, SPH TL3 BH-UP can be used as back up power.

## SPH 4000-10000TL3 BH-UP

### Product Overview

- |  |  |
|--|--|
| A. LED of status display                             | K. NTC: Lead-acid temperature sensor terminal        |
| B. LCD screen  | L. Rj45 interface of DRMs(used only in Australia)    |
| C. Function button                                   | M. Rs485 communication interface of meter1           |
| D. Ground point                                      | N. CAN communication interface of Lithium battery    |
| E. Breathable valve                                  | O. USB interface                                     |
| F. EPS output(off grid connection)                   | P. PV switch   |
| G. RSD(do not open except by Professional staff)     | Q. PV input  |
| H. AC Grid (on grid connection)                      | R. Battery terminal                                  |
| I. Rs485 communication interface (Reserved)          | S. Dry contact                                       |
| J. Rs485 communication interface of meter2(Reserved) | T. Rs485 communication interface of meter2(Reserved) |



### Main Features

#### Leading Functions

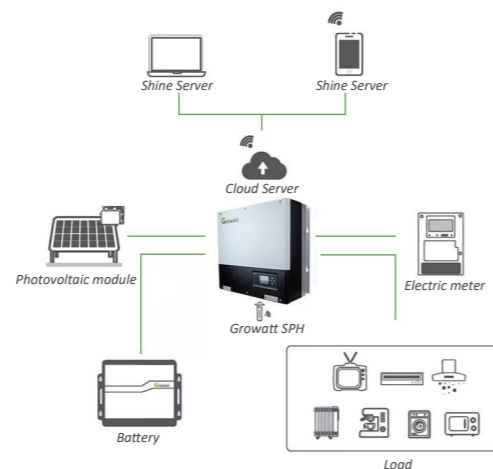
- UPS function, 10ms transition
- 100% three-phase imbalance output
- Smart phase-level power control
- Type II SPD on DC and AC side

#### High Yields

- DC/AC ratio up to 1.5
- Dual MPP trackers
- Max. efficiency 98.2%

#### System Flexibility

- Support lithium and lead-acid battery
- VPP interface ready
- Smart load control via dry contact



Datasheet	SPH4000TL3 BH-UP	SPH5000TL3 BH-UP	SPH6000TL3 BH-UP	SPH7000TL3 BH-UP	SPH8000TL3 BH-UP	SPH10000TL3 BH-UP
<b>Input data(PV)</b>						
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					
<b>Output data(AC)</b>						
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					
<b>Battery data (DC)</b>						
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					
<b>Backup power(AC)</b>						
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					
<b>Efficiency</b>						
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%
<b>Protection devices</b>						
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					
<b>General data</b>						
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					