

WIT 50-100kW US Hybrid Inverter

WIT 50-100K-HU-US

- 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



Preliminary Version

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Datasheet	WIT 50K-HU-US	WIT 63K-HU-US	WIT 75K-HU-US	WIT 100K-HU-US
Input Data (PV)				
Max. recommended PV power(for module STC)	109.2kW	124.8kW	156kW	156kW
Start voltage			195V	
Max. input voltage			1100V	
Max. open circuit voltage of PV* ¹			1000V	
MPPT nominal voltage/range			550V, 180V-800V	
Max. input current per MPP tracker			32A (16A per string)	
Max. short-circuit current per MPP tracker			40A (20A per string)	
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			277/480V, -15%~+10%	
AC grid frequency/range			50/60Hz, 45-55Hz/55-65Hz	
Max. output current	66.2A	83.4A	99.3A	132.4A
Adjustable power factor			-1...+1	
THDi			<3% (@100% load)	
AC grid connection type* ²			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			277/480V, -15%~+10%	
Nominal AC grid frequency/range			50/60Hz, 45-55Hz/55-65Hz	
Max. input current	120.3A	151.6A	180.5A	240.7A
Battery Data (DC)				
Continuous charging and discharging power	56.7kW	71.4kW	85.1kW	113.5kW
Battery voltage range* ³		750-1000V for 3P3W / 820-1000V for 3P4W		
Max charging and discharging current	75.6A	95.2A	113.5A	151.3A
BMS communication			RS485/CAN	
Types of battery			Li-ion	
Backup Power (AC)				
Rated AC output power	50kW	63kW	75kW	100kW
Max. AC apparent power	60kVA	75.6kVA	90kVA	120kVA
Max. single phase power	16.6kW	21kW	25kW	33.3kW
Nominal AC voltage			277V(L-N) / 480V(L-L)	
Nominal AC output frequency			50/60Hz	
Load connection* ³			3P3W+PE/3P4W+PE	
Max. output current	72.2A	91A	108.3A	144.4A
THDv			<3% (Linear load)	
Load unbalance			100% three-phase unbalanced	
Overload capacity		≤110%: Continues; 110%~<120%: <10min; >120%: 200ms		
On/off grid transfer time			≤16.6ms	
Efficiency				
Max. efficiency	98.2%			
Protection Devices				
DC 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)	33.5/53.1/20.1 inch (850/1350/510mm)			
Weight	337.3 lbs (153kg)		352.7 lbs (160kg)	
Operating temperature range	-22°F~+140°F, >122°F derating			
Relative humidity	0~100%			
Altitude	≤13123ft(4000m)			
Topology	Transformerless			
Cooling	Smart air cooling			
Enclosure	IP66/NEMA 4X			
Display	OLED+LED/WIFI+APP			
Interfaces: RS485/CAN	Yes			
Interfaces: WIFI/4G/LAN	Opt			
Warranty (5/10 years)	Yes/Opt			
UL1741:2021, UL1741 SA/SB:2020, IEEE1547:2018, IEEE1547.1:2020, HECO Rule14, E-5000, CSIP, SA17-SA18, UL1998:2018, CEC, FCC Part 15, CSA C22.2.107.1				

*1 The maximum open circuit voltage of PV string must be lower than the maximum input voltage of the battery system connected to the inverter.

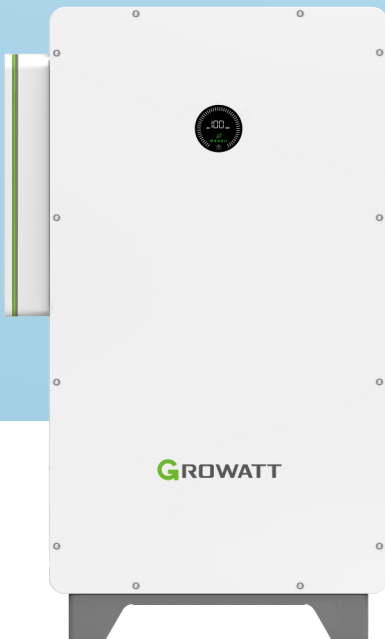
*2 For 3P4W connection type, the inverter is only compatible with APX commercial battery.

*3 Derating may occur above 900V. For safe operation above this range, please contact Growatt for guidance.

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Input Data (PV)				
Max. recommended PV power(for module STC)	109.2kW	124.8kW	156kW	156kW
Start voltage	195V			
Nominal voltage	550V			
Max. Input Voltage	1100V			
MPP voltage range	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	380/400/415V			
AC voltage range	-15%~+10%			
AC grid frequency	50/60 Hz			
AC grid frequency/range	45-55Hz/55-65Hz			
Max. output current	83.3A@380V 79.7A@400V	105A@380V 100.4A@400V	125A@380V 119.6A@400V	166.7@380V 159.4A@400V
Adjustable power factor	-1...+1			
THDI	<3%			
AC grid connection type	3P3W+PE/3P4W+PE			
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/APP			
Interfaces: RS485/CAN/USB	Yes			
Interfaces: WIFI/4G/LAN-X	Opt			
Warranty (5/10 years)	Yes/Opt			
EN 62920-2017, IEC/EN62477-1, IEC/EN62109-1, IEC/EN62109-2, IEC62116, IEC61727, G99:2020, EN50549-1, 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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