



LV BATTERY

ORB3PH 15 & 20

Energy Storage Inverter

15KW - 20KW

Area of Use: Residential and Small-Scale
Commercial and Industrial Use

THREE
PHASE

DATASHEET



Excellent Performance

- 3 MPPTs with a maximum photovoltaic input power of 24kW
- Supports high-power modules with a 20A PV input current.
- Maximum 380A charge/discharge current
- Maximum Grid Transmission Power: 30kW



High Flexibility

- Supports 40-64V lithium or lead-acid batteries.
- 3-phase unbalanced output: Increases the self-use rate of solar energy.
- Supports smart load/generator/AC connection.
- Up to 9 units can be connected in parallel for grid-connected and off-grid operation.



Security and Reliability

- IP65: Suitable for indoor or outdoor installation.
- MC4 PV connectors simplify installation.
- Multiple built-in protections, including optional AFCI 2.0/RSD/Battery breaker.
- Seamless switching to backup mode for protection against power outages.



Smart Care

- Large LCD touchscreen color display, easy to use.
- 6 time zones for battery charging/discharging.
- Smart management, local and remote monitoring.

DATASHEET

ORB3PH 15

ORB3PH 20

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Efficiency		
Max. Efficiency	97.60%	97.60%
Eur. Efficiency	97.00%	97.00%
Input (PV)		
Max. PV Usable Power	24000W	24000W
Max. PV Input Voltage	1000V	1000V
Start-up Voltage	120V	120V
MPPT Operating Voltage Range	160V-980V	160V-980V
Max. Input Current per MPPT	20A/20A/20A	20A/20A/20A
Max. Short Circuit Current per MPPT	30A/30A/30A	30A/30A/30A
Nos. of MPPT	3	3
String per MPPT	1/1/1	1/1/1
Input/Output (BAT)		
Battery Type	Lithium-ion/Lead-acid	
No.Of Battery Input	2*	
Battery Rated Voltage	48V	
Battery Voltage Range	40V-60V	
Max. Charge/Discharge Current	380A/350A	380A/380A
Max. Charge/Discharge Power	20000W/17500W	20000W/20000W
Input/Output (Grid)		
Nominal AC Output Power	15000W	20000W
Max. AC Output Apparent Power	16500VA	22000VA
Nominal AC Output Current	3*22.7A/3*21.7A/3*20.8A	3*30.3A/3*29A/3*27.8A
Max. AC Output Current	3*30.3A	3*33.3A
Max. Single Phase Power	8000W	8500W
Max. AC Pass Through Power	30000W	
Nominal Grid Voltage	220V/380V; 230V/400V, 240V/415V 3W+N+PE	
Grid Input Voltage Range	260V-518V (Adjustable)	
Nominal Grid Frequency	50Hz/60Hz	
Power Factor	> 0.99 @rated power (Adjustable 0.8 LD - 0.8 LG)	
THDi	< 3% @rated power	
Output (Back up)		
Nominal AC Output Power	15000W	20000W
Max. AC Output Apparent Power	16500VA	22000VA
Nominal AC Output Current	3*22.7A/3*21.7A/3*20.8A	3*30.3A/3*29A/3*27.8A
Max. AC Output Current	3*25A	3*33.3A
Peak Output Apparent Power (10s)	30000W	30000W
Nominal Grid Voltage	220V/380V; 230V/400V, 240V/415V 3W+N+PE	
Nominal Grid Frequency	50Hz/60Hz	
Transfer Time	< 10ms	
THDV	< 3% @100% R Load	
Input (Generator)		
Max. Input Power	30000W	
Protection		
Protection Category	Class I	
DC Switch	Yes	
Anti-islanding Protection	Yes	
AC Overcurrent Protection	Yes	
DC Reverse Protection	Yes	
DC/AC Overvoltage Protection	DC Type II, AC Type III	
Surge Arrester	DC Type II, AC Type II	
Insulation Resistance Detection	Yes	
Leakage Current Protection	Yes	
Bulid-in BAT Breaker	400A , Optional	
AFCI 2.0/RSD	Optional	
General		
Max. Operation Altitude	4000m (>2000m derating)	
Ingress Protection Degree	IP65	
Operating Temperature Range	-25 ℃ ~60 ℃ (>45 ℃ derating)	
Relative Humidity	0~100%	
Cooling Method	Smart Cooling	
Mounting	Wall bracket	
Dimensions (W*H*D)	453mm*742mm*255mm	
Weight	50Kg	
HMI & COM		
Display	LED, LCD Optioanl	
Communication Interface	RS485/CAN (for BMS), RS485 (for Meter), DRMs, CAN (for parallel), 2*DO, 2*DI ,USB (for Wi-Fi/LAN,Optional)	
Certification		
Safety	IEC/EN 62109-1/-2	
EMC	IEC/EN 61000-6-1/-2/-3/-4, IEC/EN 62920	
Grid	IEC 61727/62116, IEC 60068, IEC 61683, NRS 097-2-1, EN 50549-1/10	
Warranty	5 Years/10 Years (optional)	

Remarks: · The range of output voltage and frequency may vary depending on different grid codes.

· Specifications are subject to change without advanced notice.

*: if only one set of terminals is used, the max battery charge/discharge will be limited to 190A