

# DATA SHEET

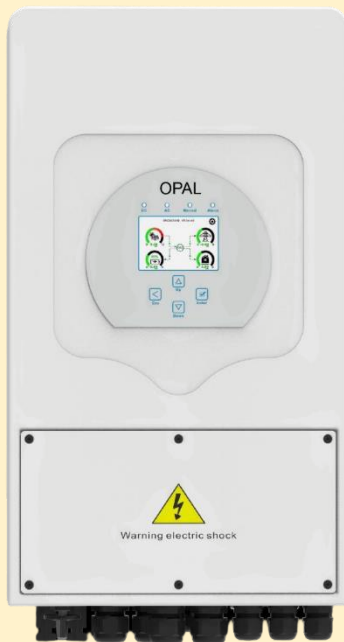
## SINGLE PHASE HYBRID INVERTER



This Energy Storage System comprises of either a 3.6kW/ 5kW hybrid single phase hybrid inverter with a 4.8kWh battery pack or 2 battery packs expandable to even higher capacity if required. Outdoor enclosure will be provided

### Opal-3.6K-1P- EU & Opal-5K-1P-EU

### FEATURES OF HYBRID INVERTER



- LCD** Colourful touch LCD, IP65 protection degree
- 4** 4ms fast transfer from on-grid to off-grid mode, ensuing no disruption to any loads
- 6** 6 time period setting for battery charging/discharging
- 16** The hybrid inverters can be expanded up to 16 inverters
- 120** Able to take high DC charge & discharge current
- Frequency droop control for off grid micro-grid application
- Able to support storing energy from diesel generator
- Suitable for both DC or AC couple to retrofit existing solar system
- Unique Smart Load application and Grid peak shaving function
- Easy access to system via either PC or phone App



**Opal residential monitoring solution** take great care to ensure that your PV system is in excellent operation throughout its entire life-cycle. This monitoring solution offer you details information of your power generating plant including daily, monthly, yearly energy and total energy etc, through wireless communication with your router to the internet by a smart WIFI plug. User can easily access to the monitoring page via PC web or phone APP. The cloud data will be kept in Europe and Singapore



## Technical Specification

### Hybrid Inverter

Model	Opal-3.6K-1P-EU	Opal-5K-1P-EU
<b>PV Input DC Rating</b>		
No of MPPT for solar input	Two	
Max DC input Power	4,680Wp	6,500Wp
PV DC input MPPT voltage range	150-425V	
Start-up DC Voltage	125V	
PV Input Current per MPPT	13A +13A	
Battery Voltage range	40V to 60V	
DC Max. Charging/ Discharging	90A	120A
<b>AC Rating</b>		
Rated AC Output and UPS power	3,600W	5,000W
Max. Output AC Output power	3,690W	5,500W
Off-Grid Peak AC Power	7,200W for 10 sec	10,000W for 10 sec
AC Output rated Current	16.4A	22.7A
Max. AC Current	18.0A	25.0A
Max. Continuous AC pass-through	35.0A	
Output Voltage frequency	230V single phase 50/60Hz	
Current harmonic Distortion	THD<3% (Linear Load <1.5%)	
Power Factor	0.8 leading to 0.8 lagging	
<b>Efficiency</b>		
Max Efficiency	97.6%	
Euro Efficiency	97.0%	
MPPT Efficiency	99.9%	
<b>Protections</b>		
PV input lightning Protection	Integrated	
Anti-Islanding protection	Integrated	
PV String Input Reverse Polarity Protection	Integrated	
Insulation Resistor Detection	Integrated	
Residual Current monitoring Unit	Integrated	
Output Over Current Protection	Integrated	
Output Short Circuit Protection	Integrated	
Output Over Voltage Protection	Integrated	
Surge Protection	DC Type II/ AC Type II	
UPS Transfer Time	4mSec	
<b>Certifications and Standards</b>		
Grid Regulation	CEI 0-21, IEC61727, IEC62116, VDE 4105, UNE 217002, VDE 0216-1-1	
Safety standard/ EMC	IEC62109-1/-2, IEC61000-6-1/2/3/4	
<b>General</b>		
Operating Temperature Range °C	-45 to 60°C, >45°C derating	
Cooling	NATURAL COOLING	
Elevation	<3000 M	
Noise (DB)	<30 DB	
Humidity	5% to 95% (Non-Condensing)	
Communication with BMS	RS485/ CAN	
Protection Degree	IP65	
Inverter Weight (Kg)	20.5 Kg	
Inverter Dimension (mm)	330W x 580H x 232D mm (Wall mounted)	
Warranty	5 years (Standard) + 5 years (Optional)	