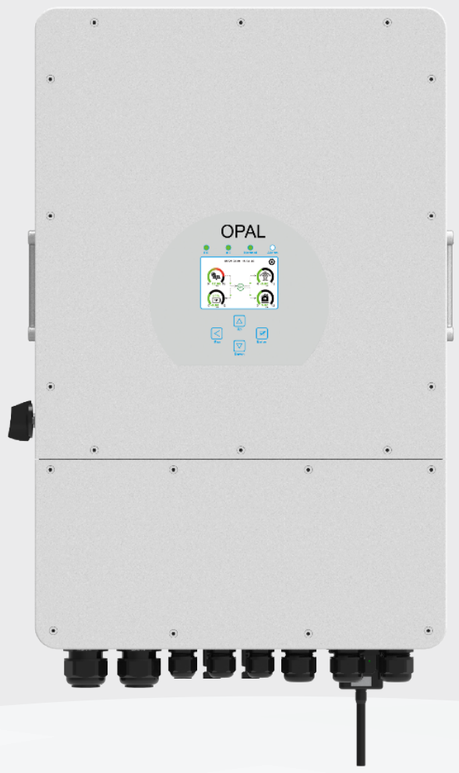
“Power Your Home and Invest Today”

8kW 3phase 10 or 15kWh System



Residential Energy Storage Solutions (8kW, 3 phase)

Opal Energy Storage System is ideal for residential applications. Based on the vast experience gained from technical experts across the globe, we at Opal Energy developed a highly efficient hybrid storage system that is suitable for both urban and off-grid areas.

With more renewable energy added into the grid, the stability of the grid is affected. To overcome this challenge, introducing hybrid solution allows one to decide when to use grid power or from energy storage battery or to be completely independent from the grid. The UPS feature integrated into the system provides consumers with very reliable

independent power supply. External wind power or a standby generator can also be easily connected into the system. The solution is appropriate for both DC and AC coupled systems. With safety as a highest priority, we only recommend high quality Lithium Iron Phosphate batteries in our system.

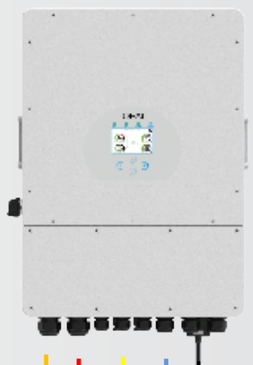
<u>The kit comprises of the following:</u>

1 Units of Opal 8kW 3 phase hybrid inverter

2 or 3 Units of Opal 5.12kwh, 51.2V wall mounted LPF battery and accessories

PV-Solar max. Input 10,4kWp

2 or3 x Opal Battery L05 1100
5.12kWh, 51.2V=10.24kWh or
15.36kWh



1 x 8kW, 3 phase OPAL hybrid inverter

Able to take unbalance loads

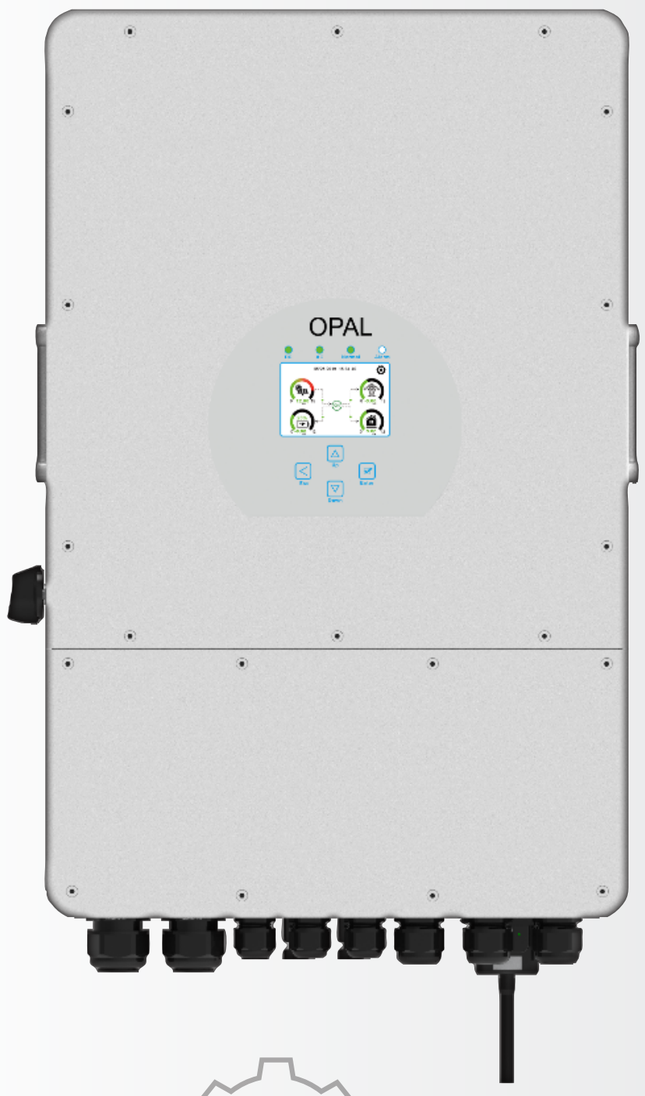
Loads
(8kW)

2.0kW
2.0kW
4.0kw
2.0kW
2.0kW
4.0kw
RS485

Energy meter
(Optional)

2.0kW
2.0kW
4.0kW

Grid



FEATURES OF HYBRID INVERTER

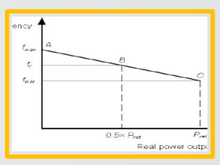
LCD — Colourful touch LCD, IP65 protection degree

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

10 — The hybrid inverters can be expanded up to 10 inverters

190 — 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 excess to system via either PC or phone App

FEATURES OF BATTERY

LFP (Lithium Iron Phosphate) cells from globally leading top tier cell manufacturer

LFP cells mean the highest level inherent safety for lithium cells proven with multiple of safety certification

Single battery design can be used rack-, floor-, wall-mounted, indoor or outdoor IP54/IP65 able to connect up to 32 units in parallel

Inter-battery and active cell balancing meaning there is no need to charge batteries to same voltage before commissioning

Optional Wi fi stick allows connecting to the UZ portal for lifetime monitoring and control of batteries with no recurring cost

10 years

Model: Opal L051100

Hybrid inverter

Model	Opal-8K-3P-EU
PV Input DC Rating	
No of MPPT for solar input	Two
Max DC input Power	10,400Wp
PV DC input MPPT voltage range	200 to 650V
Start-up DC Voltage	160V
PV Input Current per MPPT	13A +13A
Battery Voltage range	40V to 60V
DC Max. Charging/ Discharging	190A
AC Rating	
Rated AC Output and UPS power	8,000W
Max. Output AC Output power	8,800W
Off-Grid Peak AC Power	16,000W for 10 sec
AC Output rated Current	12.1A
Max. AC Current	18.2A
Max. Continuous AC pass-through	45.0A
Output Voltage frequency	230V/400V three phase 50/60Hz
Current harmonic Distortion	THD<3% (Linear Load <1.5%)
Power Factor	0.8 leading to 0.8 lagging
Efficiency	
Max Efficiency	97.6%
Euro Efficiency	97.0%
MPPT Efficiency	99.9%
Protections	
PV input lightning, Anti-islanding, PV string input reverse polarity, insulation resistor detection, residual current monitoring unit, output over current, output short circuit and output over voltage	Integrated
Surge Protection	DC Type II/ AC Type II
UPS Transfer Time	4mSec
Certifications and Standards	
Grid Regulation	IEC61727, IEC62116, VDE 4105, UNE 217002, VDE 0216-1-1
Safety standard/ EMC	IEC62109-1/-2, IEC61000-6-1/2/3/4
General	
Operating Temperature Range °C	-25 to 60°C, >45°C derating
Cooling	SMART 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)	34.5 Kg
Inverter Dimension (mm)	422 W x 702 H x 281 D mm (Wall mounted)
Warranty	5 years Standard

Battery

Model	Opal L051100
Rated Energy in kWh@25°C	5.12kWh
Battery Rated voltage	51.2V
Battery Operating Range	48 to 57.6V
Max. Charging/ Discharging	100A
Battery Self-discharging rate	<3% @25°C, 50% SOC
Cycle Life	>6000 times (0.5C up to 70% DOD)
Certifications and Standards	
Battery certification	IEC 62619, IEC 61000, IEC 62040, UN38.3
General	
Operating Temperature Range °C	-25 to 60°C, 45°C derating
Cooling	Natural Cooling
Elevation	<3500m
Battery Pack (Kg)	44.5Kg
Size (mm)	440 W x 530 H x 132 D mm
Protection Degree	IP20/ Optional IP54/IP65
Communication with BMS	RS485/CAN
Warranty	10 years

Optional Rack system to hold up to 5 batteries

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