

**THE**  
**one** **TO ALL**  
**ANSWER** **YOUR**  
**POWER**  
**NEEDS.**



# ENERGY STORAGE SYSTEM (ESS)

2kW 24V with Li-Ion Battery Pack of 2kWh & 4kWh  
3kW 48V with Li-Ion Battery Pack of 3kWh & 6kWh  
4kW 48V with Li-Ion Battery Pack of 4kWh & 8kWh  
5kW 48V with Li-Ion Battery Pack of 5kWh & 10kWh  
10kW 48V with Li-Ion Battery Pack of 10kWh & 20kWh



## POWER-ONE EXPERIENCE

Power-one is a power conversion technology leader headquartered in Bangalore, with three State-of-the-Art Factories having 50,000 sq. feet manufacturing area, meeting all Industry standards. From 1992, Powerone has accumulated rich experience in Power Protection Solutions, predominantly on Indian Power Condition. Today Power-one serves the nation, with 56 Offices, catering to multivertical customers pan India.

## POWER ONE ENERGY STORAGE SYSTEM (ESS)

Power One Energy Storage System (ESS) is an all-in-one solution, which integrates a Hybrid inverter and a Li-Ion (LiFePO4) battery module in to one compact and stylish wall/floor mounted unit and it delivers power and performance.

Power One Energy Storage System (ESS) offers economical and self-sufficient solution, which allows home owners, Educational institutions, Small industries, Banks, and Government building load to be used on the solar power during day time, store the excess generation in battery for night consumption and export the excess energy back to the Grid during sun hours.

Product features include an easily scalable Lithium-ion battery module for energy expansion which is lighter than lead-acid batteries with compact/stylish design. ESS offers 3 operation modes with intelligent operation settings to adapt to the customer load pattern. It is easy to configure between different operational modes based on user needs for their energy management which includes User-programmable PV power supply priority, Charging source priority, Load supply source priority and power usage/charging time based on Peak/Off-peak time.



### Our ESS systems with battery storage capacities are

1. 2kW 24V with Li-Ion Battery Pack of 2kWh & 4kWh
2. 3kW 48V with Li-Ion Battery Pack of 3kWh & 6kWh
3. 4kW 48V with Li-Ion Battery Pack of 4kWh & 8kWh
4. 5kW 48V with Li-Ion Battery Pack of 5kWh & 10kWh
5. 10kW 48V with Li-Ion Battery Pack of 10kWh & 20kWh

### Main Features

- Plug and play easy installation with built-in fuse protection
- Pure sine wave output
- Self-consumption and Feed-back to the Grid
- Programmable supply priority for PV, Battery or Grid
- User-adjustable battery charging current
- Programmable multiple operation modes: Grid-Tie, Off-Grid, and Grid-Tie with backup
- Built-in timer for various mode of ON/OFF operation
- Multiple communication for USB, RS232, Modbus, SNMP, GPRS, and Wi-Fi
- Monitoring software for real-time status display and control
- Scalable Li-Ion battery expansion
- Advanced Battery Management System
- High efficiency
- High Charge / Discharge rate (Fast charging in 1-2 hours compared to 8-10 hours for lead acid batteries)
- Greater than 3,000 cycles life @ 90% DoD

## TECHNICAL SPECIFICATIONS

Capacity	2 KW	3 KW	4 KW	5 KW	10 KW
Model No.	ESS - 102B	ESS - 103B-SM	ESS - 104B	ESS - 105B	ESS - 103B
<b>RATED OUTPUT POWER</b>	2000 W	3000 W	4000 W	5000 W	10000 W
<b>PV INPUT (DC)</b>					
Max. PV Power	2000 W	3000 W	4000 W	6000 W	10000 W
Max. PV Array Open Circuit Voltage	145V DC				900 VDC
MPPT Range at Operating Voltage	30 VDC - 115VDC	60VDC - 115VDC			400VDC - 800 VDC
Number of MPPT	1		2		2
<b>GRID-TIE OPERATION</b>					
<b>GRID OUTPUT (AC)</b>					
Nominal Output Voltage	220 / 230 / 240 VAC			400 VAC ( P-P )	
Feed-in Grid Voltage Range	184 - 264 VAC OR 195 - 253 VAC (Settable)				184 - 265VAC/Phase
Feed-in Grid Frequency Range	47.5 Hz - 57.5 Hz				
Nominal Output Current	8.7A	13A	17.4A	21.7A	14.5A Per Phase
Power Factor	> 0.99				
Maximum Conversion Efficiency (DC/AC)	90%	92.50%	93%	92.50%	93.50%
<b>OFF-GRID OPERATION (HYBRID MODE)</b>					
<b>GRID INPUT</b>					
Acceptable Input Voltage Range	170 - 280 VAC Per Phase				
Nominal Frequency	50 Hz				
Maximum AC Input Current	30A	40A			40A Per Phase
<b>BATTERY MODE OUTPUT (AC)</b>					
Nominal Output Voltage	220/230/240 VAC			400 VAC (P-P)	
Output Waveform	Sine Wave				
<b>BATTERY &amp; CHARGER</b>					
Nominal DC Voltage	24 VDC	48 VDC			
Maximum Charging Current	140A	180A		200A	
<b>BATTERY STORAGE SYSTEM</b>					
Capacity	2000Wh	3000Wh	4000Wh	5000Wh	10000Wh
Nominal Voltage	25.6V	51.2V	51.2V	51.2V	51.2V
Full Charge Voltage	29.20V	56V	56V	56V	56V
Full Discharge Voltage	21.6V	43.2V	43.2V	43.2V	43.2V
Standard Charge Current	26A	26A	40A	40A	66A
Maximum Charge Current	40A	40A	60A	60A	100A
Standard Discharge Current	26A	26A	40A	40A	66A
Max Discharging Current	56A	56A	84A	84A	100A
Peak Discharge Current	120A	120A	180A	180A	140A
Protection	BMS, Breaker	BMS, Breaker	BMS, Breaker	BMS, Breaker	BMS, Breaker
Communication Cable	RS485/RS232	RS485/RS232	RS485/RS232	RS485/RS232	RS485/RS232

**Cumstomizable Battery Capacity for Higher Back Up Option is Available**





ONLINE UPS SYSTEMS | MODULAR UPS SYSTEMS | LINE INTERACTIVE UPS | OUTDOOR UPS  
 FREQUENCY CONVERTERS | SOLAR GRID-TIE INVERTERS | SOLAR INVERTERS WITH ENERGY STORAGE  
 OFF GRID INVERTERS | SOLAR PUMP CONTROLLERS | STATIC STABILIZERS  
 SERVO CONTROLLED VOLTAGE STABILIZERS | ULTRA ISOLATION TRANSFORMERS  
 INDUSTRIAL SINEWAVE INVERTERS | ACTIVE HARMONIC FILTERS | EV CHARGERS



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**REGIONAL OFFICES:**

- |                           |                           |                                 |
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| ■ RANCHI - 98351 52630    | ■ PATNA - 93863 66973     | ■ TRIVANDRUM - 94470 33724      |
| ■ MUMBAI - 77097 32393    | ■ INDORE - 88788 58828    | ■ VISAKHAPATTANAM - 98481 34706 |
| ■ HYDERABAD - 94460 21399 | ■ AHMEDABAD - 94265 16831 | ■ BHOPAL - 91082 83149          |

**SERVICE CENTRES AT:**

- SOUTH:** MYSORE, MANGALORE, MANIPAL, HUBLI, BELGAUM, GULBERGA, BELLARY, SHIMOGA, KARWAR, BIJAPUR, VISHAKAPATTANAM, VIJAYAWADA, RAJMUNDRY, NELLORE, TIRUPATI, QUILON, KOTTAYAM, CALICUT, PALAKKAD, PONDICHERRY, TRICHY, MADURAI, COIMBATORE
- NORTH:** JAMMU, SRINAGAR, CHANDIGARH, KANPUR, LUCKNOW, ALLAHABAD, INDORE, BHOPAL, JAIPUR, DEHRADUN, BARELI
- EAST:** BHUBANESWAR, GAUHATI, JAMSHEDPUR, SILIGURI, GANGTOK
- WEST:** SURAT, BARODA, NAGPUR, NASIK, GOA