ZEN STORE-3

Hybrid Solar Energy Storage Systems

OFF GRID / ALL IN ONE WITH HYBRID INVERTER

10KW TO 50KW

Divya Hi-Tech Solar Project Pvt. Ltd.

A Sustainable Solution for Modern Energy Needs

Hybrid Solar Energy Storage

Source-derived overview from the supplied Divya Hi-Tech brochure.

About Divya Hi-Tech

Pioneering the future of renewable energy with innovative solar solutions. The supplied brochure states that Divya Hi-Tech empowers homes and businesses with reliable, efficient, and eco-friendly power generation.

Unlocking the Power of Hybrid Solar

Hybrid solar energy systems combine solar panel electricity generation with battery storage, offering continuous power supply day and night. During the day, solar panels capture sunlight and convert it into electricity. Power can be used immediately or stored in batteries for later use. When solar production is low, stored energy is discharged.

Excess energy can also be fed back to the grid, potentially earning credits.

Core components

Solar PV Panels • Battery Storage • Hybrid Inverter • Smart Energy Meter

Key Benefits & Applications

Benefit	Source description
Enhanced Reliability	Enjoy uninterrupted power, even during grid outages, ensuring continuous operation for homes and businesses.
Reduced Energy Costs	Minimize reliance on grid electricity and use stored solar energy during expensive peak hours.
Environmental Impact	Utilize clean, renewable energy and reduce fossil fuel consumption.
Energy Independence	Gain greater control over energy supply and protect against fluctuating utility rates and grid instability.

Versatile Applications

Application	Source-supported use
Residential Homes	Ensure consistent power for your family, reduce utility bills, and increase property value with a reliable home energy solution.
Commercial Buildings	Optimize operational costs, improve energy efficiency, and demonstrate sustainability to clients and stakeholders.
Industrial Facilities	Power critical operations, reduce demand charges, and secure energy supply for manufacturing and heavy industries.

ZEN STORE — Integrated Hybrid Solution

ZEN STORE-3

The supplied brochure presents ZEN STORE-3 as its flagship hybrid energy storage system, designed for peak performance and intuitive operation.

Integrated Power Control

Seamlessly manages power generation, storage, and consumption with advanced AI algorithms.

High-Capacity Battery

Offers extended energy storage for resilience against grid failures and optimized energy utilization.

Smart Monitoring

Intuitive interface for real-time performance tracking and remote control, accessible via mobile or desktop.

Enhanced Safety

Built-in protection features are stated to support reliable and safe operation, adhering to the highest industry standards.

System interface

The supplied ZEN STORE-3 manual states that the interface board uses a graphic display with capacitive keyboard and shows real date/time, different function modes, PV, grid, loads, and battery system functions with their ratings.

Function Modes

Mode	How it works	Priority / key point
Self-Use	PV power supplies local loads first, then charges the battery. Redundant power exports to the public grid.	Load → Battery → Grid
Force Time Use	Charging and discharging time can be set flexibly; grid charging can be selected. Otherwise follows self-use priority.	Charging: Battery → Load → Grid Discharging: Load → Battery → Grid
Back-Up Mode	Keeps battery energy available for grid-off conditions. Battery is not discharged while grid is on.	Battery → Load → Grid
Feed-in Priority	PV power supplies local loads first, then exports to the grid; redundant power charges the battery.	Load → Grid → Battery
EPS Mode	When the grid is off, the system supplies emergency power from PV or battery to home loads. Battery is necessary.	Emergency supply from PV / Battery

The mode descriptions and priorities above are taken only from the supplied ZEN STORE-3 user manual.

Product Range

System Capacity	Battery / Storage Configuration	PV Array / Max DC Input	MPPT
3 KW	48 / 51.2 V, 100 AH ZEN STORE -1 Storage 3KW to 10KW	3 kW class data in supplied ZEN STORE-1 datasheet	2 trackers / 1+1 strings
5 KW	48 / 51.2 V, 100 / 200 AH ZEN STORE-1 Storage 5KW to 15KW	5 kW class data in supplied ZEN STORE-1 datasheet	2 trackers / 1+1 strings
10 KW	30 KW battery bank; 48 V-100/200 AH or 51.2 V-100/200 AH LiFePO4	10,000 W max DC input; minimum 10,000 Wp PV array	2
15 KW	50 KW battery bank; 48 V-100/200 AH or 51.2 V-100/200 AH LiFePO4	15,000 W max DC input; minimum 15,000 Wp PV array	2
20 KW	60 KW battery bank; 48 V-100/200 AH or 51.2 V-100/200 AH LiFePO4	20,000 W max DC input; minimum 20,000 Wp PV array	2
25 KW	80 KW battery bank; 48 V-100/200 AH or 51.2 V-100/200 AH LiFePO4	25,000 W max DC input; minimum 25,000 Wp PV array	2

Note: The supplied cover states a 3KW to 50KW product range; detailed configuration tables supplied in the documents cover 3KW, 5KW, 10KW, 15KW, 20KW and 25KW.

ZEN STORE-3 — 10 / 15 / 20 / 25 KW

Parameter	10 KW	15 KW	20 KW	25 KW
Storage capacity	30 KW	50 KW	60 KW	80 KW
Max DC input power	10,000 W	15,000 W	20,000 W	25,000 W
Absolute max DC input voltage	1,000 V	1,000 V	1,000 V	1,000 V
MPPT voltage range	200–950 Vdc	200–950 Vdc	200–950 Vdc	200–950 Vdc
PV module minimum	545 Wp each	545 Wp each	545 Wp each	545 Wp each
Grid voltage range	342–440 Vac	342–440 Vac	342–440 Vac	342–440 Vac
Grid frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated voltage	400 V	400 V	400 V	400 V
Rated frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
THD	<2%	<2%	<2%	<2%
Displacement power factor	0.8 leading / 0.8 lagging	0.8 leading / 0.8 lagging	0.8 leading / 0.8 lagging	0.8 leading / 0.8 lagging
Battery charge/discharge Imax	25 A	25 A	25 A	25 A

System Protection, Interfaces & General Data

Protection	Specification
Overload protection	Miniature circuit breaker
Over-temperature protection	Miniature circuit breaker
AC line protection	Switch + SPD
Battery protection	Provided
DC–PV line protection	Provided
Switch time to EPS	5 s

General Data	Specification
Operating temperature	-5 to +45 °C
Relative humidity	0%–95%, non-condensing
Installation environment	Indoor
Degree of pollution	2
Placement	Floor
IP grade	IP20
Class of isolation	I
Size	1045 × 1245 × 545 mm
Standard weight	261 kg
Weight with 6 / 7 / 8 batteries	309 / 333 / 357 kg

Interfaces	Details
GPRS	2G Dualband
WiFi	2.4 GHz IEEE Std. 802.11b/g — optional
LAN	10/100 Mbps Ethernet — optional
HMI	Display LCD

LiFePO4 Battery Details

Parameter	Source specification
Battery rating	48V-100/200AH; 51.2V-100/200AH
Battery type	LiFePO4 / Lithium Iron phosphate (High Voltage)
Controller	BMS Controller
Applicable standards	As per IEC Norms; T-V (IEC62619)
Depth of discharge	80% (10–90%)
Design life	Minimum 10 years design life at 27°C
Cycle life	6000
Communication	RS485 / CAN
Operating temperature	0–50°C
Storage temperature	-20–60°C
Protection class	IP20
Weight	48 kg
Battery dimensions	442 × 480 × 155 mm

ZEN STORE-1 battery datasheet additionally states: LiFePO4 cell technology, 51.2V nominal voltage, 5.4 KWh battery module capacity, 106 AH nominal capacity, >90% DOD, 5,000 cycle life, 58.2 V max discharge voltage, and 43.5 kg module weight.

ZEN STORE-1 — 3 KW & 5 KW Datasheet

Parameter	3 KW	5 KW
Max AC input/output apparent power	3960 VA	5500 VA
Rated AC input/output active power	3600 W	5000 W
Max PV input power	4680 W	6500 W
Max PV input voltage	500 V	500 V
PV input voltage range	125–500 V	125–500 V
MPPT voltage range	150–425 V	150–425 V
Max operating PV input current	18 A + 18 A	18 A + 18 A
Max input short-circuit current	27 A + 27 A	27 A + 27 A
MPP trackers / strings	2 / 1+1	2 / 1+1
Battery voltage range	40–60 V	40–60 V
Max charging / discharging current	90 A / 120 A	90 A / 120 A
Max stored energy stated	21.7 KWh	21.7 KWh
Max efficiency	97.60%	97.60%

Contact Us Today

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Innovating for a Brighter Tomorrow

All product, specification, operating-mode, application, battery, protection, interface and contact details in this brochure are compiled only from the two PDFs supplied in this conversation.