Panasonic

ENERGY SOLUTIONS
RESIDENTIAL STORAGE BATTERY SYSTEM

MAKING SMART TOWNS, BUILDING SMART COMMUNITIES

WHY PANASONIC?

RESIDENTIAL STORAGE BATTERY SYSTEM

The next evolution in solar energy solutions.

Panasonic's residential storage battery system delivers a double revolution for Australia's energy sector, bringing new flexibility to distributed energy and lower energy costs to consumers. To this rapidly expanding energy industry, Panasonic brings a strong heritage in Lithium-ion battery technology. With experience spanning more than 80 years, we are able to deliver industry-leading reliability, quality and safety.

INTRODUCING FUJISAWA, SUSTAINABLE SMART TOWN. A JOINT VENTURE WITH PANASONIC.

DELIVERING VALUE TO RETAILERS

Panasonic's residential storage battery system allows retailers to reduce demand during peak times and provide savings to the consumer. In supplying the storage battery system retailers can better manage the time of use during peak periods and offer longer term contracts and savings to the consumer.

DELIVERING VALUE TO DISTRIBUTORS

For energy distributors, demand response power discharge supports grid stability through peak cutting. Panasonic's storage battery system offers distributors cost savings on capital investment for network upgrades, including transformers.

DELIVERING VALUE TO CONSUMERS AND SMALL BUSINESS

Australian consumers and small business want to invest in sustainable energy sources but they also depend on energy being available on demand. Panasonic's storage battery system can shift clean solar energy for use during the evening peak period, reducing overall energy costs.

DELIVERING UNINTERRUPTED CLEAN ENERGY

By storing solar energy in the residential storage battery system, clean energy can be used around the clock to reduce consumer's electricity bill and support residential customers by supplying critical electricity backup needs during blackouts.

PANASONIC
NUMBER 1 ELECTRONIC GREEN BRAND

Interbrand, the US brand consulting company, announced on June 24, 2014 that Panasonic ranks No. 1 in the Electronics Sector for the "Best Global Green Brands 2014". An Excellent Green Brand is defined as achieving a good balance between Green Perception (consumers' image of an eco-brand) and Green Performance (a company's environmental management practices). Panasonic's Green Performance was evaluated as being especially high, with excellent marks going to "Products and Services," "Governance," and "Transportation and Logistics."

THE COMPLETE SYSTEM

PANASONIC'S RESIDENTIAL STORAGE BATTERY SYSTEM

At the heart of our innovative residential storage battery system is a compact Lithium-ion storage battery designed to be installed with existing residential photovoltaic (PV) systems. The standalone storage battery allows day-time excess PV power to maximise the self consumption of PV generated electricity. The unit also features a backup function to provide AC power during a blackout situation. When combined with the Network Adapter and DR-EMS Platform Software, this system also offers distributors and retailers the opportunity to reduce peak load.

LJ-SK56A Li-ion Storage Battery System

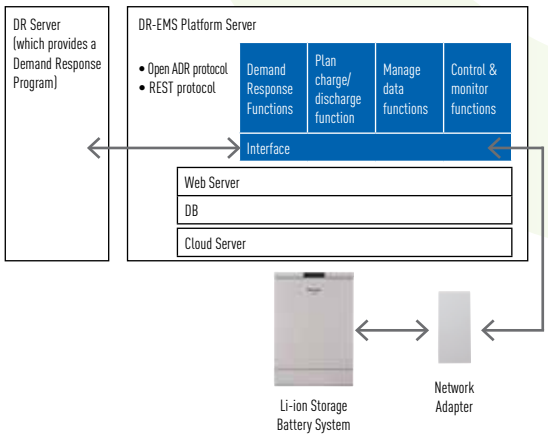
MAJOR FEATURES
1) Lithium-ion battery technology
2) 5.3 kWh usable capacity and 2.0kW output
3) Maximises self consumption
4) Programmed charge/discharge
5) Remote control charge/discharge
6) Emergency backup feature

LJ-NA02 Network Adapter

MAJOR FEATURES
1) Connects DR-EMS Platform Software server & Li-ion storage battery system
2) Monitoring and controlling commands
3) Secure network communications

DR-EMS Platform Software

DR-EMS Platform Software Structure



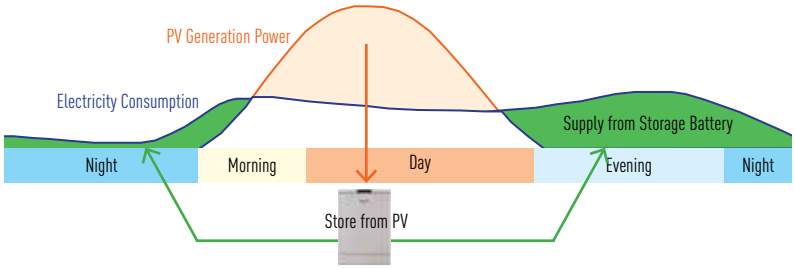
MAJOR FEATURES
1) Demand Response functions
2) Monitoring of battery status
3) Time of use and direct load control*
4) Reporting functions
5) Data storage functions
6) Application program interface

*Controls storage battery only

MAJOR FEATURES

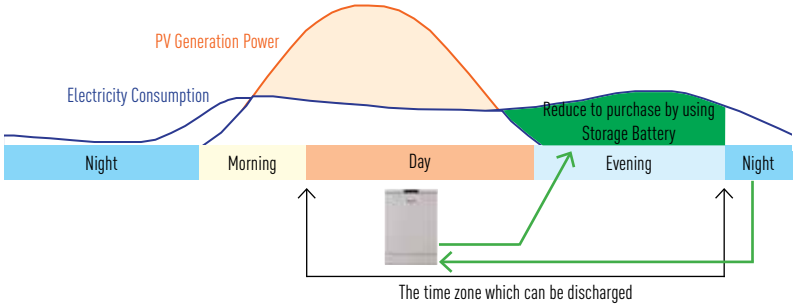
MAXIMISE SELF-CONSUMPTION MODE

The Lithium-ion storage battery system works in harmony with PV generation. By storing excess electricity in the storage battery during the day, clean energy can be used around the clock, even when the sun goes down. This allows not only for maximum utilisation of clean energy but also for a reduction of the consumers electricity bill.



PROGRAMMED CHARGE/DISCHARGE TIME MODE

The consumer can set the charge / discharge time on the lithium-ion storage battery system directly. The battery will be charged or discharged only during the designated time. At other times it will not be charged or discharged. From the storage battery system there is no excess electricity to the grid.



BACK UP MODE

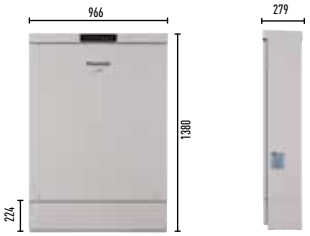
When a black out happens, the Lithium-ion storage battery system can provide the charged electricity to some particular house loads through the specified plug. The minimum remaining battery capacity can be set.

TECHNICAL SPECIFICATIONS

LJ-SK56A Li-ion Storage Battery System

(STAND ALONE) MAJOR FEATURES
1) Maximise self-consumption
2) Programmed charge/discharge
3) Back-up
(REMOTE) MAJOR FEATURE
1) Charge/Discharge remote control

DIMENSIONS
W: 966mm x H: 1380mm x D: 279mm
Weight: 134 kg
Colour: Ivory



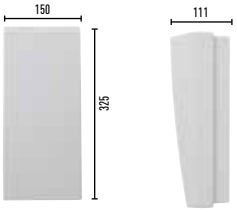
CONDITIONS OF INSTALLATION
Outdoor Installation: IP54
Space required for Installation: Front: 800mm Left: 50mm Right: 200mm Back: 50mm Top: 200mm
Do Not Install: Where Salt damage may occur or near corrosive gases etc

Battery	Technology	Lithium-ion
	Usable Capacity	5.3 [kWh]
Battery Input	Nominal Input Voltage	93.6 [V]
AC Output (Grid Tied)	Connection Type	Single phase 2 wire
	Rated AC Voltage	230[V]
	Rated frequency	50 [Hz]
	Rated Power (Input/Output)	-2.0[kW] / 2.0[kW]
	Rated Current (Input/Output)	-8.7[Arms] / 8.7[Arms]
Back-up	Connection Type	Single phase 2 wire (n-phase ground)
	Rated AC Voltage	230[V]
	Rated Frequency	50[Hz]
	Maximum Output	2.0[kVA]
Environmental	Ambient Temp. Sensor in battery module	0~40ºC *Discharge -10~40ºC
	Ambient Humidity	0~90[%Rh] *Non condensing
	Maximum Altitude	1000[m]
Standard	Safety	AS/NZS 3100:2009 IEC62040-1 Ed.1.1
	Grid	AS/NZS 4777.2:2015
	EMC	IEC61000-3/-6
User Interface	7seg 5 Digit LED with 4 buttons	

LJ-NA02 Network Adapter

MAJOR FEATURES
1) Communicate between DR Server and Li-ion Storage battery system: monitoring and controlling commands
2) Communicate safely

DIMENSIONS
W: 150mm x H: 325mm x D: 111mm
Weight: 1.4 kg
Colour: White

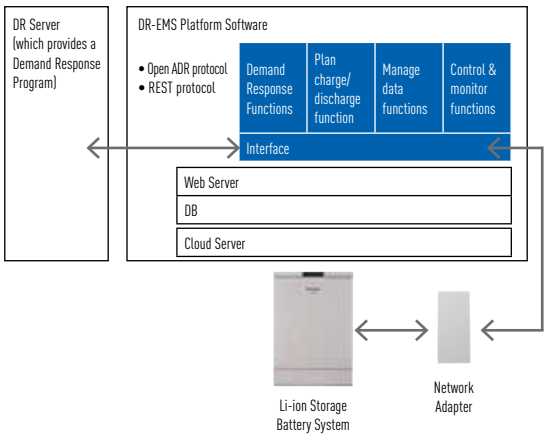


CONDITIONS OF INSTALLATION
Indoor installation: Wall mount

Power Entry Characterisic	Input	AC230V ±10% (50/60Hz)
	Withstand Voltage	AC1500V/ 1 min
	Insulation Resistance	100M Ohm or more. Measurement by 500V Insulation Resistance Tester
Network interface (LAN Port)	Ethernet	100BASE-TX/ 10BASE-T
	Number of Port	1
	Type of Connector	RJ-45
	Communication Protocol	HTTPS over IPv4
Serial interface (RS-485)	Connection Method	2-wire
	Transfer Rate	9600bps
	Communication Protocol	Modbus RTU
	Recommend Cable	PVC flexible cable 2C 0.75sq mm
	Length of Cable	Max. 50m
Environmental	Ambient Temperature	0~40ºC
	Ambient Humidity	Max. 85[%Rh] *Non condensing
	Maximum Altitude	1000[m]
Standard	Safety	IEC60950.1
	EMC	CISPR22, CISPR24

DR-EMS Platform Software

DR-EMS Platform Software Structure



MAJOR FEATURES
1) Li-ion Storage Battery System managing functions
2) Demand Response functions
3) Reporting functions
4) Data storage functions

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