



MULTIpacklitio/2019
*three-phase battery system
Hybrid / Retrofit*

MULTIpacklitio *three-phase battery system by Sunerg*

MULTI pack is a storage solution with powers ranging from 9,6 to 24 kWh battery system. Inverter intelligently manages the solar system by initially directing the generated solar power to the loads. Batteries are charged by only excess produced power. Battery discharging only takes place during times of high consumption, nighttime and during times of limited solar production, resulting in improved overall efficiency of the system and extended battery life. In this way, the self-consumption of solar energy is optimised.



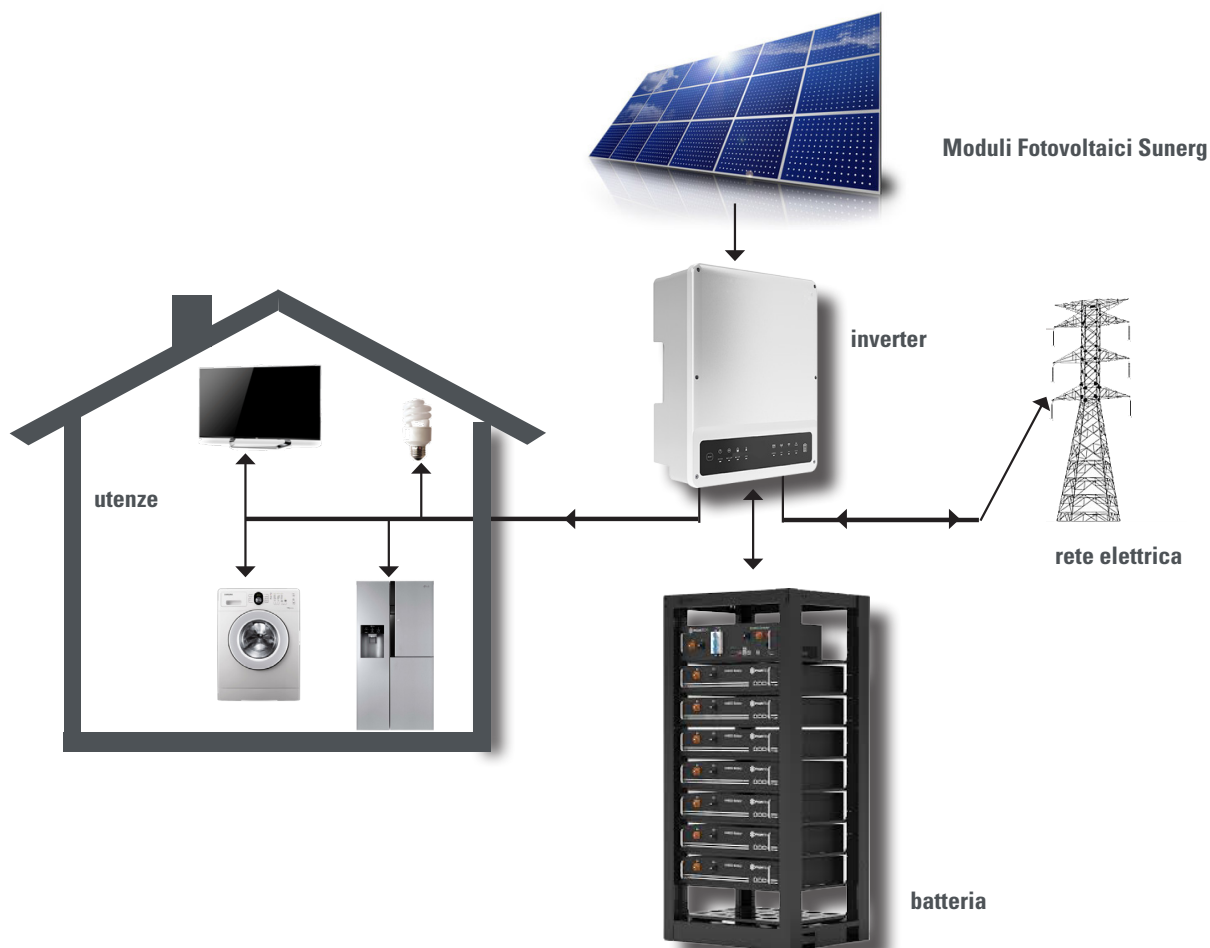
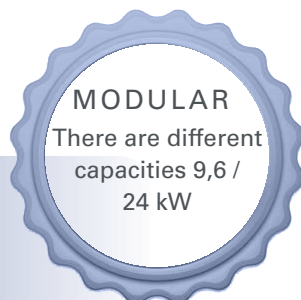
HYBRID SYSTEM FOR NEW INSTALLATIONS



RETROFIT SYSTEM FOR EXISTING INSTALLATIONS



POSSIBILITY TO INSTALL MORE INVERTERS IN PARALLEL





HYBRID

TECHNICAL DATA		5000H	8000H	10000H
Battery Input Data	Battery Type	Li-Ion		
	Battery Voltage Range (V)	180~600		
	Max. Charging Current (A)	25		
	Max. Discharging Current (A)	25		
	Charging Strategy for Li-Ion Battery	Self-adaption to BMS		
PV String Input Data	Max. DC Input Power (W)	6500	9600	13000
	Max. DC Input Voltage (V)	1000		
	MPPT Range (V)	200~850		
	Start-up Voltage (V)	180		
	MPPT Range for Full Load (V)	240~850	380~850	460~850
	Nominal DC Input Voltage (V)	620		
	Max. Input Current (A)	12.5 / 12.5		
	Max. Short Current (A)	15.2 / 15.2		
	No. of MPP Trackers	2		
	No. of Strings per MPP Tracker	1 / 1		
AC Output Data (On-grid)	Nominal Apparent Power Output to Utility Grid (VA)	5000	8000	10000
	Max. Apparent Power Output to Utility Grid (VA)	5500	8800	11000
	Max. Apparent Power from Utility Grid (VA)	10000	15000	15000
	Nominal Output Voltage (V)	400/380, 3L / N / PE		
	Nominal Output Frequency (Hz)	50 / 60		
	Max. AC Current Output to Utility Grid (A)	8.5	13.5	16.5
	Max. AC Current from Utility Grid (A)	15.2	22.7	22.7
	Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)		
AC Output Data (Back-up; Optional)	Output THDi (@Nominal Output)	<3%		
	Max. Output Apparent Power (VA)	5000	8000	10000
	Peak Output Apparent Power (VA)	10000, 60 sec	16000, 60 sec	16500, 60 sec
	Max. Output Current (A)	8.5	13.5	16.5
	Nominal Output Voltage (V)	400 / 380		
	Nominal Output Frequency (Hz)	50 / 60		
Efficiency	Output THDv (@Linear Load)	<3%		
	Max. Efficiency	98.0%	98.2%	98.2%
	Max. Battery to Load Efficiency	97.5%		
Protection	European Efficiency	97.2%	97.5%	97.5%
	Anti-Islanding Protection	Integrated		
	PV String Input Reverse Polarity Protection	Integrated		
General Data	Insulation Resistor Detection	Integrated		
	Residual Current Monitoring Unit	Integrated		
	Output Over Current Protection	Integrated		
	Output Short Protection	Integrated		
	Battery Input Reverse Polarity Protection	Integrated		
	Output Over Voltage Protection	Integrated		
	Operating Temperature Range (°C)	-35~60		
	Relative Humidity	0~95%		
	Operating Altitude (m)	≤4000		
	Cooling	Nature Convection		
	Noise (dB)	<30		
	User Interface	LED & APP		
	Communication with BMS	RS485; CAN		
Communication with Meter	RS485			
Communication with EMS	RS485 (Insulated)			
Communication with Portal	Wi-Fi			
Weight (kg)	24			
Size (Width*Height*Depth mm)	516*415*180			
Mounting	Wall Bracket			
Protection Degree	IP65			
Standby Self-Consumption (W)	<15			
Topology	Transformerless			
Standards	Grid Regulation	CEI 0-21; VDE4105-AR-N; VDE0126-1-1; EN50438; G83/2; G100		
	Safety Regulation	IEC62109-1&-2, IEC62040-1		
	EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN61000-4-16, EN61000-4-18, EN61000-4-29		



RETROFIT

TECHNICAL DATA		5000R	6000R	8000R	10000R
Battery Input Data	Battery Type	Li-Ion			
	Battery Voltage Range (V)	180~600			
	Max. Charging Current (A)	25			
	Max. Discharging Current (A)	25			
	Charging Strategy for Li-Ion Battery	Self-adaption to BMS			
AC Output Data (On-grid)	Nominal Apparent Power Output to Utility Grid (VA)	5000	6000	8000	10000
	Max. Apparent Power Output to Utility Grid (VA)	5500	6600	8800	11000
	Max. Apparent Power from Utility Grid (VA)	10000	12000	15000	15000
	Nominal Output Voltage (V)	400 / 380, 3L / N / PE			
	Nominal Output Frequency (Hz)	50/60			
	Max. AC Current Output to Utility Grid (A)	8.5	10.5	13.5	16.5
	Max. AC Current from Utility Grid (A)	15.2	18.2	22.7	22.7
	Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)			
	Output THDi (@Nominal Output)	<3%			
UPS Output Data (Back-up)	Max. Output Apparent Power (VA)	5000	6000	8000	10000
	Peak Output Apparent Power (VA)	10000, 60 sec	12000, 60 sec	15000, 60 sec	15000, 60 sec
	Max. Output Current (A)	8.5	10.5	13.5	16.5
	Automatic Switch Time (s)	≤0.01			
	Nominal Output Voltage (V)	400 / 380			
	Nominal Output Frequency (Hz)	50 / 60			
	Output THDv (@Linear Load)	<3%			
Efficiency	Max. Battery to Load Efficiency	97.5 %			
	Max. Charge Efficiency	97.5%			
Protection	Anti-Islanding Protection	Integrated			
	Insulation Resistor Detection	Integrated			
	Residual Current Monitoring Unit	Integrated			
	Output Over Current Protection	Integrated			
	Output Short Protection	Integrated			
	Battery Input Reverse Polarity Protection	Integrated			
	Output Over Voltage Protection	Integrated			
General Data	Operating Temperature Range (°C)	-35~60			
	Relative Humidity	0~95%			
	Operating Altitude (m)	≤4000			
	Cooling	Nature Convection			
	Noise (dB)	<30			
	User Interface	LED & APP			
	Communication with BMS	RS485; CAN			
	Communication with Meter	RS485			
	Communication with EMS	RS485 (Insulated)			
	Communication with Portal	Wi-Fi			
	Weight (kg)	21			
	Size (Width*Height*Depth mm)	516*415*180			
	Mounting	Wall Bracket			
	Protection Degree	IP65			
	Standby Self-Consumption (W)	<15			
Topology	Transformerless				
Standards	Grid Regulation	CEI 0-21; VDE4105-AR-N; VDE0126-1-1; EN50438; G83/2; G100	AS/NZS 4777.2:2015	CEI 0-21; VDE4105-AR-N; VDE0126-1-1; EN50438; G83/2; G100	AS/NZS 4777.2:2015
	Safety Regulation	IEC62109-1&-2, IEC62040-1			
	EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN61000-4-16, EN61000-4-18, EN61000-4-29			

BATTERY



- The simple fixing reduces installation time to a minimum.

- Modular design gives the end customers the power of choice of capacity.

Battery used for both Hybrid and Retrofit systems

TECHNICAL DATA		MODELS
Nominal	Capacity (kWh)	2.40
	Nominal Voltage (Vdc)	48
	Nominal Capacity (AH)	50
Electrical	Voltage Range (Vdc)	45~54
Physical	Depth of Discharge	80%(10~90%)
	Dimensions (W*D*H* mm)	442*390*100
Others	Communication	RS485/CAN
	Protection Class	IP20
	Weight	24
	Operation Life	10+years
	Operation Cycle Life	4000
	Operation Temperature	0~50°C
	Stoorage Temperature	-20~60°C
	Product Certificate	TUV (IEC62619)

KIT MULTI PACK LITIO HYBRID

Three-phase storage hybrid, inverter and battery



Components	MPL_H 9,6	MPL_H 12	MPL_H 14,4	MPL_H 16,8	MPL_H 19,2	MPL_H 21,6	MPL_H 24
Capacity battery	9,6 kWh	12 kWh	14,4 kWh	16,8 kWh	19,2 kWh	21,6 kWh	24 kWh
Inverter 5/8/10	1x5	1x8	1x8	1x10	1x10	1x10	1x10
Battery 2,4 kWh	4	5	6	7	8	9	10
Cabinet	1	1	1	1	1	2	2
Assembly	1	1	1	1	1	1	1

Other kit compositions on request - Photovoltaic modules excluded

KIT MULTI PACK LITIO RETROFIT

Three-phase storage with inverter and battery



Components	MPL_R 9,6	MPL_R 12	MPL_R 14,4	MPL_R 16,8	MPL_R 19,2	MPL_R 21,6	MPL_R 24
Capacity battery	9,6 kWh	12 kWh	14,4 kWh	16,8 kWh	19,2 kWh	21,6 kWh	24 kWh
Inverter 5/8/10	1x5	1x5	1x8	1x8	1x8	1x10	1x10
Battery 2,4 kWh	4	5	6	7	8	9	10
Cabinet	1	1	1	1	1	2	2
Assembly	1	1	1	1	1	1	1

Other kit compositions on request



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