

**REDWAY POWER**



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# **REDWAY POWER**

## **Home ESS SOLUTIONS**

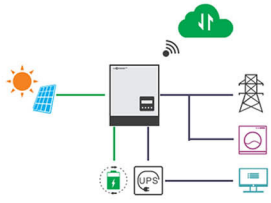




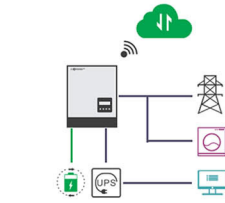
# Home ESS

## Hybrid Application Scenario

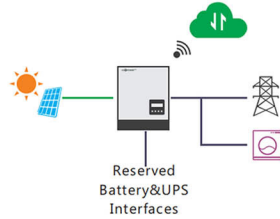
### Working Mode



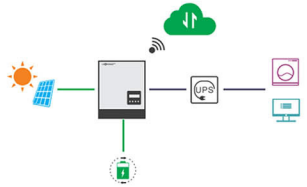
Solar and energy storage hybrid system



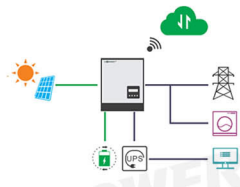
Energy storage system without grid



On grid solar system without battery



Off grid and back up application



Hybrid system with zero output

### Hybrid System Features

- Multi system working modes, ON/OFF mode auto-exchange.
- Wide PV input voltage range, dual solar MPPT tracker.
- System efficiency 97.5%, charging/discharging rate > 94%.
- System scallable to single or three split phase, inverter Max 60KW in parallel, lithium battery pack Max 16 nos in parallel.
- EPS and UPS function available.
- Compact and nice design, easy for installation, wall/floor type available.
- Easy for customer operation, users can see the home bills data from mobile APP or LCD.
- Premium system components, reliable quality.

### Hybrid Home ESS Configuration

Scenario	3KW-5KWh	5KW-5KWh	5KW-10KWh	6kW-10KWh	8KW-10KWh	10KW-20KWh	12KW-20KWh
Battery	Powerwall 51100-S, LFP lithium battery(51.2V100Ah)	Powerwall 51100-S, LFP lithium battery(51.2V100Ah)	Powerwall 51100-S, LFP lithium battery(51.2V100Ah), 2PCS in parallel	Powerwall 51100-S, LFP lithium battery(51.2V100Ah), 2PCS in parallel	Powerwall 51100-S, LFP lithium battery(51.2V100Ah), 2PCS in parallel	Powerwall 51100-S, LFP lithium battery(51.2V100Ah), 4PCS in parallel	Powerwall 51100-S, LFP lithium battery(51.2V100Ah), 4PCS in parallel
Solar panel	mono, 380W, 8S1P, 3040W	mono, 450w, 10S1P, total 4.5KW	mono, 450w, 10S1P, total 4.5KW	mono, 450W, 2MPPT, 7S1P, 6S1P, 5850W	mono, 540W, 2 MPPT, 7S1P per MPPT, 7560W	mono, 450W, 10S1P per MPPT, 9000W	mono, 540W, 11S1P per MPPT, 11880W
Inverter	Hybrid Inverter 3KW	Hybrid Inverter 5KW	Hybrid Inverter 5KW	Hybrid Inverter 6KW	Hybrid Inverter 8KW	Hybrid Inverter 10KW	Hybrid Inverter 12KW

# Home ESS

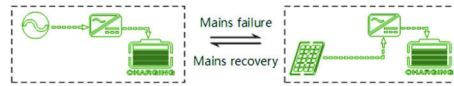
## Off-Grid Application Scenario



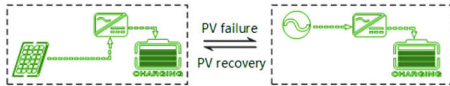
### Working Mode



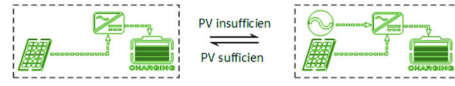
Solar only



Mains priority



PV priority



hybrid charging

### Off-Grid System Features

- System working mode flexible and optional, 4 working modes (only solar, mains priority, solar priority, solar and mains hybrid).
- Solar MPPT tracking efficiency can be up to 99.9%, system efficiency > 95%.
- System scalable to single or three phase system, inverter Max 6 units in parallel, lithium pack Max 16 units in parallel.
- Compact and nice design, easy for installation, wall/floor type available.
- Easy for customer operation, users can see the home bills data from mobile APP or LCD.
- Premium system components, reliable quality.

### Off-Grid Home ESS Configuration

Scenario	3KW-5KWh	5KW-5KWh	5KW-10KWh	8kw-10KWh	10KW-15KWh	15KW-15KWh	20KW-30KWh
Battery	PowerWall 51100-S, LFP lithium battery (51.2V100Ah)	PowerWall 51100-S, LFP lithium battery (51.2V100Ah)	PowerWall 51100-S, LFP lithium battery (51.2V100Ah), 2PCS in parallel	PowerWall 51100-S, LFP lithium battery (51.2V100Ah), 2PCS in parallel	PowerWall 51100-S, LFP lithium battery (51.2V100Ah), 3PCS in parallel	PowerWall 51100-S, LFP lithium battery (51.2V100Ah), 3PCS in parallel	PowerWall 51100-S, LFP lithium battery (51.2V100Ah), 6PCS in parallel
Solar panel	Mono, 380W, 9S1P, 3.42KW	Mono, 450W, 9S1P, total 4.05KW	Mono, 450W, 9S1P, 4.05KW	Mono, 540W, 2 MPPT, 7S1P per MPPT, 7.56KW	Mono, 540W, 9S1P per MPPT, 9.72KW	Mono, 540W, 9S1P, 4860W, 3 in parallel, 14.58KW	Mono, 540W, 9S1P, 4860W, 4 in parallel, 19.44KW
Inverter	Off grid solar inverter 3KW	Off grid solar inverter 5KW	Off grid solar inverter 5KW	Off grid solar inverter 8KW	Off grid solar inverter 10KW	Off grid solar inverter 5KW, total 15KW	Off grid solar inverter 5KW, total 20KW

# Home ESS

## System Composition



## Solar Battery



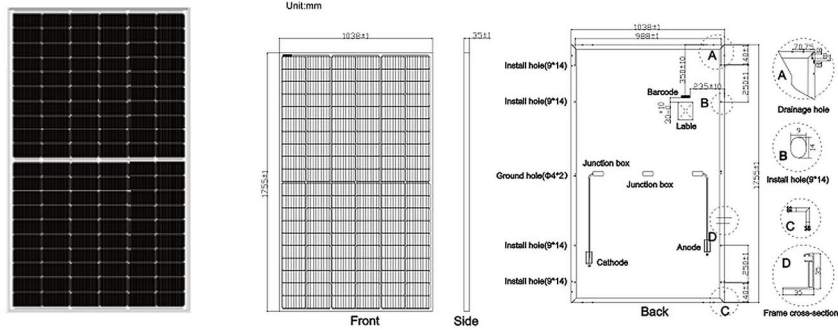
Model	PowerWall 51100-S	PowerWall 51184-S
Battery Type	LiFePO4	LiFePO4
Battery Capacity	100 Ah	184Ah
Nominal Battery Energy	5.12 kWh	9420Wh
Nominal Voltage	51.2 V	51.2V/CELL
Working Voltage	40 ~ 58.4 V	40 ~ 58.4 V
Net Weight	45 Kg	80 Kg
Dimension [L*W*H]	532 x 425 x 170 mm (20.94 x 16.73 x 6.69 in)	535 x 720 x 176.8 mm (21 x 28.34 x 6.96 in)
Charging Temp. Range	0°C ~ 55°C	0°C ~ 55°C
Discharging Temp. Range	-20°C ~ 60°C	-20°C ~ 60°C
Communication	CAN/RS485	CAN/RS485
Design Life	20 Years	20 Years
Warranty Document Supplied	YES	YES
Cycle Life (25@50% DOD)	>6000 Cycles	>6000 Cycles
Cycle Life (25@80% DOD)	3000 Cycles	3000 Cycles
IP Grade	IP21 (Indoor Application/Upgrade is Available)	IP21 (Indoor Application/Upgrade is Available)
Scalability	Up to 16 units in parallel	Up to 16 units in parallel
Color	Black & Gray (Customized Color is Available)	Black & Gray (Customized Color is Available)
Alarms	Overcharge/Over discharge/Overcurrent /Over temperature/Short Circuit	Overcharge/Over discharge/Overcurrent /Over temperature/Short Circuit
Monitoring & Protection	Each system has smart BMS, breaker embedded in system	Each system has smart BMS, breaker embedded in system
Pros	Can be used in both off-grid and hybrid setups, compact design, floor or wall mount	Can be used in both off-grid and hybrid setups, compact design, floor or wall mount
Compatible Inverters	Victron/SMA/Goodwe/ Imeon /Solis/SAJ /Growatt/Luxpower/Voltronic/Deye etc.	Victron/SMA/Goodwe/ Imeon /Solis/SAJ /Growatt/Luxpower/Voltronic/Deye etc.
Certification & Safety Standard	IEC62619 / CE / UN38.3	IEC62619 / CE / UN38.3

# Home ESS

## System Composition



### Solar Panel



Model	AU360-30V-MH	AU365-30V-MH	AU370-30V-MH	AU375-30V-MH	AU380-30V-MH
Peak Power (Pmax)	360	365	370	375	380
Maximum Power Voltage (Vmp)	34	34.2	34.4	34.6	34.8
Maximum Power Current (Imp)	10.59	10.68	10.76	10.84	10.92
Open Circuit Voltage (Voc)	40.5±3%	40.8±3%	40.9±3%	41.1±3%	41.3±3%
Short Circuit Current (Isc)	11.35±3%	11.43±3%	11.52±3%	11.6±3%	11.69±3%
Module Efficiency (%)	19.76	20.03	20.31	20.58	20.85
Power Tolerance	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%
Pmax Temperature Coefficients (W/°C)	-0.350%	-0.350%	-0.350%	-0.350%	-0.350%
Voc Temperature Coefficients (V/°C)	-0.270%	-0.270%	-0.270%	-0.270%	-0.270%
Isc Temperature Coefficients (A/°C)	+0.048%	+0.048%	+0.048%	+0.048%	+0.048%
NOCT Nominal Operation Cell Temperature (°C)	47±2	47±2	47±2	47±2	47±2
Operating and Storage Temperature (°C)	-40 ~ +85	-40 ~ +85	-40 ~ +85	-40 ~ +85	-40 ~ +85
Standard Test Condition (STC)	1000W/m <sup>2</sup> , AM 1.5;25+/-2°C	1000W/m <sup>2</sup> , AM 1.5;25+/-2°C	1000W/m <sup>2</sup> , AM 1.5;25+/-2°C	1000W/m <sup>2</sup> , AM 1.5;25+/-2°C	1000W/m <sup>2</sup> , AM 1.5;25+/-2°C

# Home ESS

## System Composition



Off Grid



Hybrid

**REDWAY POWER**

All series can be customized according to customer needs

### Solar Inverter

MODEL	HF4830S60-145	HF4850S80-H	CAN BE SET
<b>INVERTER OUTPUT</b>			
Rated Output Power	3,000W	5,000W	
Max.Peak Power	6,000VA	10,000VA	
Rated Output Voltage	230Vav(L/N/PE single phase)	230Vav(L/N/PE single phase)	✓
Load Capacity of Motors	2HP	4HP	
Rated AC Frequency	50Hz/60Hz	50Hz/60Hz	
Waveform	Pure sine Wave	Pure sine Wave	
Switch Time	10ms (typical)	10ms (typical)	
<b>BATTERY</b>			
Batter Type	Li-ion/Lead-Acid/User Defined	Li-ion/Lead-Acid/User Defined	✓
Rated Battery Voltage	48Vdc	48Vdc	
Voltage Range	40~60Vdc	40~60Vdc	✓
Max.MPPT Charging Current	60A	80A	✓
Max.Mains/Generator Charging Current	60A	60A	✓
Max.Hybrid Charging Current	120A	80A	✓
<b>PV INPUT</b>			
Num. ofMPPT Trackers	1	1	
Max.PV Array Power	3,400W	5,200W	
Max.Input Current	40A	18A	
Max.Voltage of Open Circuit	145Vdc	500Vdc	
MPPT Voltage Range	60~115Vdc	120~450Vdc	
<b>MAINS/GENERATOR INPUT</b>			
Input Voltage Range	UPS: 170~280Vac APL:90~280Vac	UPS: 170~280Vac APL:90~280Vac	✓
Frequency Range	50Hz/60Hz	50Hz/60Hz	✓
Bypass Overload Current	30A	40A	
<b>EFFICIENCY</b>			
MPPT Tracking Efficiency	99.9%	99.9%	
Max. Battery Inverter Efficiency	92%	92%	
<b>GENERAL</b>			
Dimensions	378*280*103mm	426*322*126mm	
Weight	6.2kg	10.9kg	
Protection Degree	IP20, Indor Only	IP20, Indor Only	
Operating Temperature Range	-15°C~55°C	-15°C~55°C	
Noise	<60dB	<60dB	
Cooling Method	Internal Fan	Internal Fan	
Warranty	1 Year	1 Year	
<b>COMMUNICATION</b>			
Embedded Interfaces	RS485/CAN/USB/Dry contact	RS485/CAN/USB/Dry contact	
External Modules(Optional)	Wi-Fi/GPRS	Wi-Fi/GPRS	
<b>CERTIFACATION</b>			
Safety	IEC 62109	IEC 62109, SAA , IEC 61683 cETL UL1741&CSA C22.2	
EMC	EN61000,FCC Part15 classB	EN61000,FCC Part15 classB	
RoHS	Yes	Yes	

Solar	LXP3K	LXP3.6K/4k	LXP4.6K/5K	LXP6K
<b>Solar</b>				
Max. DC Input Power	6600W	7000W	8000W	8000W
Nominal DC Input Voltage	360V.d.c	360V.d.c	360V.d.c	360V.d.c
DC Input Voltage Range	100 - 550V.d.c	100 - 550V.d.c	100 - 550V.d.c	100 - 550V.d.c
MPPT Voltage Range	120 - 500V.d.c	120 - 500V.d.c	120 - 500V.d.c	120 - 500V.d.c
Start-up Voltage	140V.d.c	140V.d.c	140V.d.c	140V.d.c
MPPT Number	2	2	2	2
Max. DC Input Current	13A/13A	13A/13A	13A/13A	13A/13A
Max. short current per MPPT	14.5A/14.5A	14.5A/14.5A	14.5A/14.5A	14.5A/14.5A
<b>Battery</b>				
Compatible Battery Type	Lithium-ion/Lead-Acid	Lithium-ion/Lead-Acid	Lithium-ion/Lead-Acid	Lithium-ion/Lead-Acid
Nominal Battery Voltage	48V.d.c	48V.d.c	48V.d.c	48V.d.c
Battery Voltage Range	40 - 60V.d.c	40 - 60V.d.c	40 - 60V.d.c	40 - 60V.d.c
Max. Charge/Discharge Current	66A/66A	80A/80A	80A/80A	80A/80A
Max. Charge/Discharge Power	3600W/3600W	3600W/3600W	4000W/4000W	4000W/4000W
Charging Curve	3 stages	3 stages	3 stages	3 stages
Max. Charge Voltage	59V	59V	59V	59V
Capacity of Battery	2-20kWh	2-20kWh	2-20kWh	2-20kWh
<b>Grid</b>				
Nominal AC Output Power	3000W	3600W/4000W	4600W/5000W	6000W
Max. AC Output Power	3000VA	3600VA/4000VA	4600VA/5000VA	6000VA
Max. AC Output Current	15A	16A/20A	25A	26A
Nominal AC Voltage	230V.a.c	230V.a.c	230V.a.c	230V.a.c
AC Voltage Range	180 - 270V.a.c	180 - 270V.a.c	180 - 270V.a.c	180 - 270V.a.c
Nominal AC Frequency	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz
AC Frequency Range	45 - 55Hz / 55 - 65Hz	45 - 55Hz / 55 - 65Hz	45 - 55Hz / 55 - 65Hz	45 - 55Hz / 55 - 65Hz
Power Factor	Adjustable 0.8 overexcited to 0.8 underexcited			
THDI	<3%	<3%	<3%	<3%
<b>EPS</b>				
UPS Max. Output Power without Solar	3000W	3600W/4000W	4000W	4000W
UPS Max. Output Power with Solar	3000W	3600W/4000W	5000W	6000W
UPS Nominal Output Voltage	230V.a.c	230V.a.c	230V.a.c	230V.a.c
UPS Nominal Output Frequency	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz
UPS Nominal Output Current	13A	15.6A/17.4A	17.4A	17.4A
Peak Power Without Solar	4500W, 30s	4500W, 30s	4500W, 30s	4500W, 30s
THDV	<5%	<5%	<5%	<5%
Switching Time	Typical 0.01s	Typical 0.01s	Typical 0.01s	<0.01s
<b>Efficiency</b>				
Europe Efficiency	97.5%	97.5%	97.5%	97.5%
Max. Efficiency	97.9%	97.9%	97.9%	97.9%
Battery Charge/Discharge Efficiency	94.5%	94.5%	94.5%	94.5%
<b>Protection</b>				
Reverse Polarity Protection	Yes	Yes	Yes	Yes
Over Current/Voltage Protection	Yes	Yes	Yes	Yes
Anti-islanding Protection	Yes	Yes	Yes	Yes
AC Short-circuit Protection	Yes	Yes	Yes	Yes
Leakage Current Protection	Yes	Yes	Yes	Yes
Ground Fault Monitoring	Yes	Yes	Yes	Yes
Grid Monitoring	Yes	Yes	Yes	Yes
Ingress Protect Degree	IP65 / NEMA4X	IP65 / NEMA4X	IP65 / NEMA4X	IP65 / NEMA4X
DC Switch	Yes	Yes	Yes	Yes
<b>General</b>				
Dimensions (W/H/D)	455 / 476 (565) / 181	455 / 476 (565) / 181	455 / 476 (565) / 181	455 / 476 (565) / 181
Weight	20 kg	20 kg	20 kg	20 kg
Topology	Transformerless (solar), HF (Battery)			
Cooling Concept	Natural Convection	Natural Convection	Natural Convection	Natural Convection
Relatively Humidity	0-100%	0-100%	0-100%	0-100%
Operating Temperature Range	-25 - 60	-25 - 60	-25 - 60	-25 - 60
Altitude	<4000m	<4000m	<4000m	<4000m
Noise Emission	<25dB	<25dB	<25dB	<25dB
Standby Consumption	<5W	<5W	<5W	<5W
Display & Communication Interfaces	LCD, RS485, Wi-Fi, CAN	LCD, RS485, Wi-Fi, CAN	LCD, RS485, Wi-Fi, CAN	LCD, RS485, Wi-Fi, CAN

# ALL IN ONE



## EOV series 24V

INVERTER	
Items	EOV24-3.55-C1
Rated AC Output Power	3,500W
Rated AC Output Voltage	230Vac
Rated AC Output Frequency	50/60Hz
Max.PV Open Circuit Voltage	500Vdc
MPPT Voltage Range	120-450Vdc
Max.PV Input Power	4,000W
Num. Of MPPT	1

BATTERY	
Items	EOV24-5.0A-E1
Battery Energy	5.12kWh
Battery Type	Li-Ion
Rated Battery Voltage	25.6V
Battery Capacity	200Ah
Constant Charging Current	150A (0.75C)
Constant Discharging Current	150A (0.75C)
Depth of Discharging	80%
Parallel Capacity	1-2
Life-Span 80%DOD	5000

GENERAL	
Installation Method	Horizontal
Noise	<60dB
Nominal Operation Altitude	<2000m
Communication	RS485/CAN/WIFI
IP Grade	IP20
Dimension (Inverter)	600*184*500mm
Weight (Inverter)	30kg (66lb)
Dimension (Battery)	600*184*610mm
Weight (Battery)	70kg (154lb)



## EOH series 48V

INVERTER		
Items	EOH48-5.05-C0	EOH48-5.0U-C0
Rated AC Output Power	5,000W	5,000W
Rated AC Output Voltage	230Vac	120Vac
Rated AC Output Frequency	50/60Hz	50/60Hz
Max.PV Open Circuit Voltage	500Vdc	500Vdc
MPPT Voltage Range	120-450Vdc	120-450Vdc
Max.PV Input Power	5,000W	5,000W
Num. Of MPPT	1	1

BATTERY	
Items	EOH48-5.0A-E0
Battery Energy	5.12kWh
Battery Type	Li-Ion
Rated Battery Voltage	51.2V
Battery Capacity	100Ah
Constant Charging Current	100A (1C)
Constant Discharging Current	100A (1C)
Depth of Discharging	80%
Parallel Capacity	1-4
Life-Span 80%DOD	6000

GENERAL	
Installation Method	Horizontal
Noise	<60dB
Nominal Operation Altitude	<2000m
Communication	RS485/CAN/WIFI
IP Grade	IP20
Dimension (Inverter)	710*450*192mm
Weight (Inverter)	27kg (60lb)
Dimension (Battery)	710*450*192mm
Weight (Battery)	53kg (117lb)