

Residential
Energy Storage Solution

SUN-20K-SG05LP3-EU-SM2 & RW-F16

SUN-20K-SG05LP3-EU-SM2

Multi-Functional & High-Performance
100% unbalanced output each phase

Versatile Power Backup
Supports energy storage from diesel generator

Safe & Reliable Battery Design
48V low voltage battery with transformer isolation

Scalable Energy Storage
Max. 10 units in parallel for on-grid & off-grid operation

High Charging Efficiency
Max. charging/discharging current of 350A

Dynamic 24/7 Energy Management Optimization
6 time periods for battery charging/discharging

Flexible & Universal Compatibility
AC coupled with retrofit solar system

RW-F16

Ultimate Safety
Safest LFP battery & Intelligent BMS

External Power Support
External power activation, prevents battery suspension

Flexible Expansion
Max. 32 units in parallel

Superior Output
Max. 8kW output power

Flexible Application
Built-in 10A constant current limited charging
Compatible with many inverter brands

Easy Maintenance
Allow over-discharge direct recharge

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Model	SUN-20K-SG05LP3-EU-SM2
Battery Input Data	
Battery Type	Lead-acid or Lithium-ion
Battery Voltage Range (V)	40-60
Max. Charging Current (A)	350
Max. Discharging Current (A)	350
Charging Strategy for Li-ion Battery	Self-adaption to BMS
Number of Battery Input	1
PV String Input Data	
Max. PV Access Power (W)	40000
Max. PV Input Power (W)	32000
Max. PV Input Voltage (V)	800
Start-up Voltage (V)	160
MPPT Voltage Range (V)	160-650
Rated PV Input Voltage (V)	550
Max. Operating PV Input Current (A)	36+36
Max. Input Short-Circuit Current (A)	54+54
No. of MPP Trackers/ No. of Strings MPP Tracker	2/2+2
AC Input/Output Data	
Rated AC Input/Output Active Power (W)	20000
Max. AC Input/Output Apparent Power (VA)	22000
Rated AC Input/Output Current (A)	30.4/29
Max. AC Input/Output Current (A)	33.4/31.9
Max. Continuous AC Passthrough (grid to load) (A)	70
Peak Power (off-grid) (W)	2 times of rated power, 10s
Power Factor Adjustment Range	0.8 leading to 0.8 lagging
Rated Input/Output Voltage/Range (V)	220/380V,230/400V 0.85Un-1.1Un
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55,60/55-65
Grid Connection Form	3L+N+PE
Total Current Harmonic Distortion THDi	<3% (of nominal power)
DC Injection Current	<0.5% In
Efficiency	
Max. Efficiency	97.6%
Euro Efficiency	97.0%
MPPT Efficiency	>99%
Equipment Protection	
Integrated	DC Polarity Reverse Connection Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Overvoltage Load Drop Protection, Ground Fault Current Monitoring, Arc Fault Circuit Interrupter (optional), Power Network Monitoring, Island Protection Monitoring, Earth Fault Detection, DC Input Switch, DC Terminal Insulation Impedance Monitoring, Residual Current (RCD) Detection, Surge protection level
Surge Protection Level	TYPE II(DC), TYPE II(AC)
Interface	
Communication Interface	RS485/RS232/CAN
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN(optional)
General Data	
Operating Temperature Range( )	-40 to +60℃, >45℃ Derating
Permissible Ambient Humidity	0-100%
Permissible Altitude	3000m
Noise(dB)	<60
Ingress Protection(IP) Rating	IP 65
Inverter Topology	Non-Isolated
Over Voltage Category	OVC II(DC), OVC III(AC)
Cabinet Size (WxHxD mm)	456×750×268.5(Excluding Connectors and Brackets)
Weight (kg)	51.9
Type of Cooling	Intelligent Air Cooling
Warranty	5 Years/10 Years the Warranty Period Depends the Final Installation Site of Inverter, More Info Please Refer to Warranty Policy
Grid Regulation	IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105
Safety / EMC Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2

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Model		RW-F16
Main Parameters		
Battery Chemistry		$LiFePO_4$
Built-in Circuit Breaker		125A 2P, 60Vdc
Capacity (Ah) [1]		314
Scalability		Max. 32 pcs pack (Max.512kWh) in parallel
Nominal Voltage (V)		51.2
Operating Voltage (V)		44.8 ~ 57.6
Nominal Energy (kWh) [1]		16
Usable Energy (kWh@90%DOD)		14.4
Charge / Discharge Current (A) [2]	Max. Continuous	160 / 160
	Peak	300 / 300 (10 sec)
Other Parameter		
Recommend Depth of Discharge		90%
Dimension (W×H×D, mm)		480×830×235 (Without hanging board and base)
Weight Approximate(kg)		122
Master LED Indicator		LED (SOC and working state)
IP Rating of Enclosure		IP20
Operating Temperature		Charge : 0 ~ 55°C / Discharge : -20°C ~ 55°C
Recommend Operating Temperature		15°C ~ 35°C
Storage Temperature		0°C ~ 35°C
Relative Humidity		95%
Altitude		≤2000m
Cycle Life		≥6000 (25°C±2°C, 0.5C / 0.5C, 90%DOD, 70%EOL)
Installation		Wall-Mounted, Floor-Mounted
Communication Port		CAN2.0, RS485
Warranty Period [3]		5 / 10 years
Energy Throughput [3]		26.25 / 52.5MWh (25°C, 0.5C / 0.5C, 70%EOL)
Certification		UN38.3, MSDS

[1] Test conditions : 25°C±2°C, at beginning of life, 0.5C charge & 0.5C discharge,100% DOD.

[2] The current is affected by temperature and SOC.

[3] Conditions apply, refer to Deye Warranty Letter.



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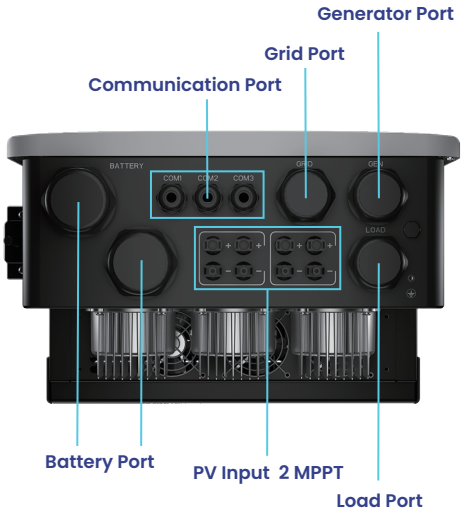
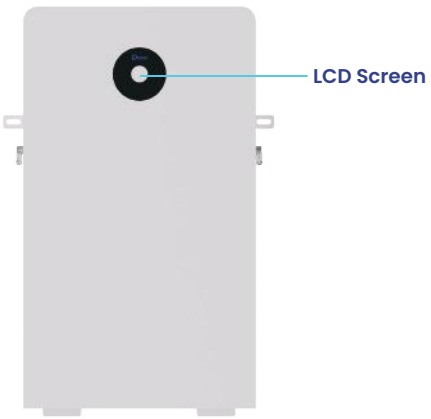
Model SUN-20K-SG05LP3-EU-SM2

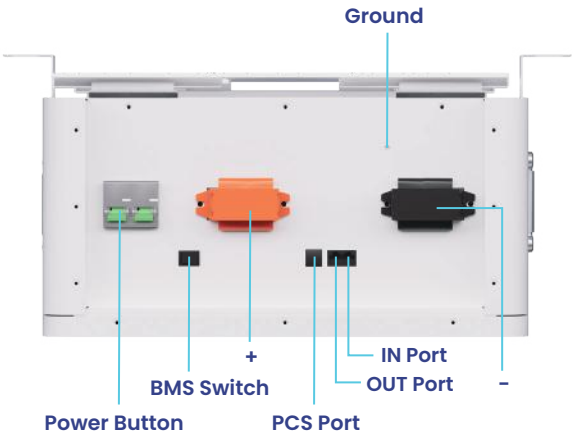




◎ Battery Port: Dual independent battery circuit port, supporting multiple brand battery connetion and battery voltage range 40-60V.
◎ Communication Port: Serve as communicate with battery and data exchange between inverter and extra devices.
◎ Load Port: Offer AC power to connected loads.
◎ Grid Port: Connect to utility grid, for bidirectional power transfer: importing from and exporting to the grid.
◎ Generator Port: Connect to diesel generator for backup power supply during outages, also can connect with existing solar inverter for AC Coupling.
◎ PV Input: Connect to PV panels with 2 MPPTs.

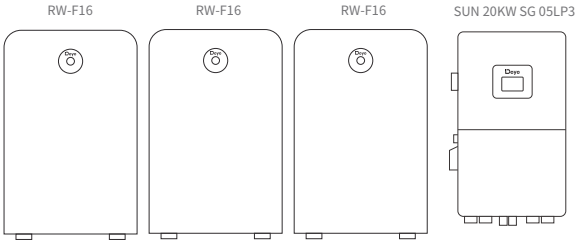
Model RW-F16



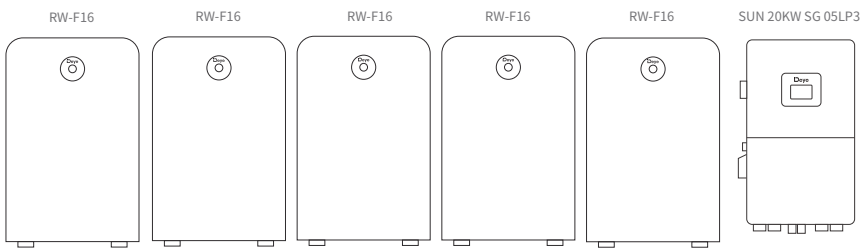


◎ LCD Screen:To indicate the state of the battery system.
◎ Power Button:To power on /off the battery.
◎ BMS Switch:To turn ON/OFF the BMS of the battery.
◎ -:Battery negative terminal connection position.
◎ +:Battery positive terminal connection position.

Battery backup time	RW-F16		
Inverter	2h	3h	4h
SUN 12KW SG 04LP3	2 units	-	3 units
SUN 12KW SG 02LP1	2 units	-	3 units
SUN 12KW SG 05LP3	2 units	-	3 units
SUN 20KW SG 05LP3	3 units	4 units	5 units



2hours



4hours

Deye Cloud

All-in-one Energy & Device Management Platform

- Unlock Significant Savings
- Individual Add-On for Dynamic Tariff
- Intelligent Charging/Discharging Strategies
- Tailored Solution to Deye Devices
- Real-time Equipment Monitoring



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Smarter home energy and device management

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Faster and more efficient data processing

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Advanced Smart Energy
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