

Deye Residential ESS Solution All-in-One Energy Storage System

iDeye

Deye RW-F5.3-2H3 RW-F5.3-1H3



Enhanced Reliability

Built-in Intelligent BMS, providing complete protection
Natural cooling, IP65, wide temperature
range : -10°C to 55°C

All-in-One Design

Integrated 3.6kW hybrid inverter and 5.3kWh LFP battery, or
5kW hybrid inverter and 5.3kWh LFP battery, safety and long
lifespan

Flexible Expansion

Max.16 units in parallel (57.6kW/84.8kWh or 80kW/84.8kWh)
Support expansion of Deye 5.3kWh LV battery, Max. capacity
of 164.3kWh

Smart Application

Peak-shaving, smart load, AC couple etc.
Fast switching time of 4ms, ensuring your energy security

Easy Installation

Flat design, wall-mounted, saving installation space, quick
and easy installation

Intelligent Control

Comfortable and easy control via App, PC or Touch-Display

Technical Data



Deye RW-F5.3-2H3 RW-F5.3-1H3

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	Model	RW-F5.3-2H3	RW-F5.3-1H3
AC Technical Specification	Rated AC Input/Output Active Power (W)	3600 / 3600	5000 / 5000
	Max AC Input/Output Apparent Power (VA)	3960	5500
	Peak Power (off grid)	2 time of rated power, 10s	
	AC Output Rated Current (A)	16.4 / 15.7	22.8 / 21.8
	Max. AC Current (A)	18/17.3	25/24
	Max Continuous AC Passthrough (grid to load) (A)	35	
	Rated Input/Output Voltage/Range (V)	220V / 230, 0.85Un-1.1Un	
	Rated Input/Output Grid Frequency/Range (Hz)	50Hz / 45Hz - 55Hz, 60Hz / 55Hz - 65Hz	
	Grid Connection Form	L+N+PE	
	Power Factor	0.8 leading to 0.8 lagging	
	Total Harmonic Distortion (THDi)	<3% (of nominal power)	
	DC injection current (mA)	<0.5% In	
	DC Technical Specification	Max. PV Access Power (W)	7200
Max. PV Input Power (W)		5760	8000
Max. PV Input Voltage (Vdc)		500	
Start Up PV Voltage (Vdc)		125	
MPPT Voltage Range (Vdc)		150 ~ 425	
Full Load MPPT Voltage Range (Vdc)		300 ~ 425	
Rated PV Input Voltage (Vdc)		370	
Max. Operating PV Input Current (A)		18+18	
Max. PV Input Short-circuit Current (A)		27+27	
Number of MPP Trackers		2	
No. of Strings Per MPP Tracker		1 + 1	
Battery Chemistry		LiFePO ₄	
Battery Nominal Voltage (V)		51.2	
Battery Energy Configuration (kWh)		5.32	
Max. Charging/Discharging Current (A)		75	100
Battery Operating Voltage (V)		44.8 ~ 57.6	
Battery Cycle Life		≥6000 (@25°C±2°C, 0.5C / 0.5C, 70%EOL)	

Technical Data



Deye RW-F5.3-2H3 RW-F5.3-1H3

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Other Technical Specification	Model	RW-F5.3-2H3	RW-F5.3-1H3
Dimension (W × D × H, mm)		616 × 191 × 690 (Excluding connectors and brackets)	
Weight Appr. (kg)		71	
IP Rating of Enclosure		IP65	
Operating Temperature Range (°C)		-10°C ~ 55°C	
Permissible Ambient Humidity		0~100%	
Inverter Topology		Non-Isolated	
Over Voltage Category		OVC II (DC), OVC III (AC)	
Type Of Cooling		Natural Cooling	
Noise (dB)		<30	
Display		Touch LCD	
Monitor Mode		WIFI, Bluetooth	
Installation Style		Wall-Mounted, Floor-Mounted	
Max. Efficiency		97%	
Max. charging/discharging Efficiency		95.5%	
MPPT Efficiency		>99%	
Safety EMC / Standard		IEC / EN 61000-6-1 / 2 / 3 / 4 , IEC / EN 62109-1, IEC / EN 62109-2	
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	
Certification		UN38.3, IEC62619	
Warranty		5/10 years (the Warranty Period Depends the Final Installation Site.More Info Please Refer to Warranty Policy)	

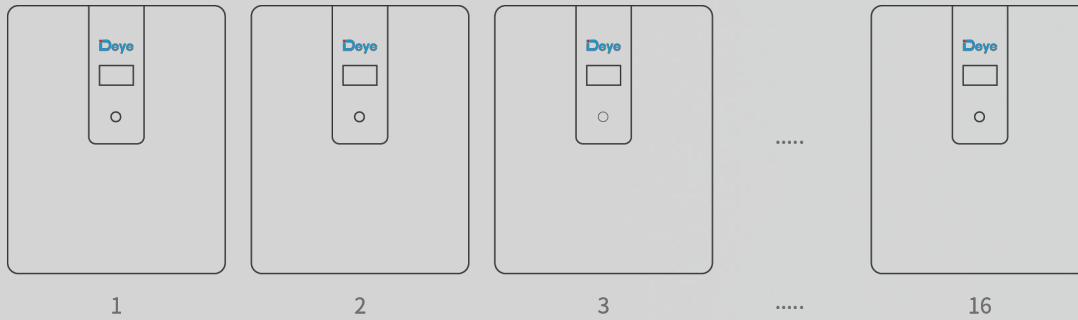
Residential ESS Solution



Deye RW-F5.3-2H3 RW-F5.3-1H3

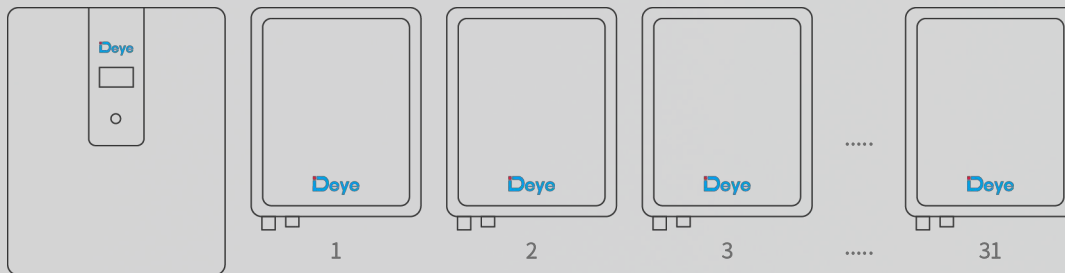
Maximum support for 16 units in parallel

RW-F5.3-2H3	57.6kW/84.8kWh
RW-F5.3-1H3	80kW/84.8kWh

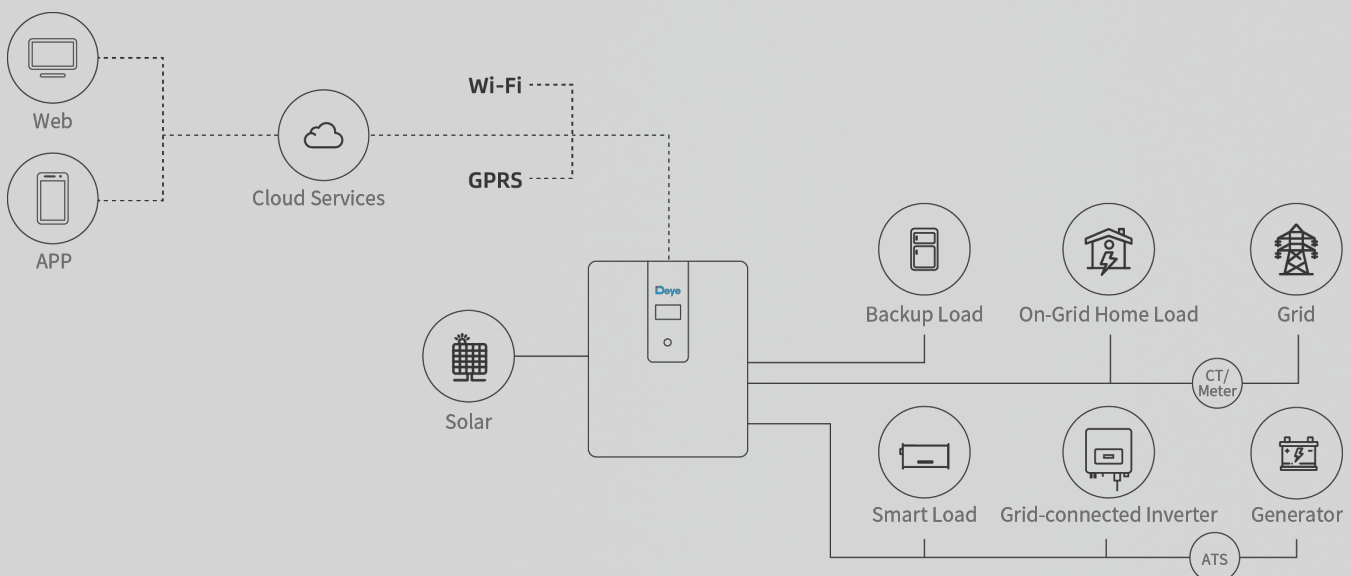


Maximum support for 31 Deye RW-M5.3 Pro in parallel

RW-M5.3 Pro and RW-F5.3-1H3/RW-F5.3-2H3	164.3kWh
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System Application Topology Diagram





High Power Output
Low LCOE

Maximum Power
515W+

TWMNH

N-type Half-cell
Bifacial Module (54)

54HD495-515W

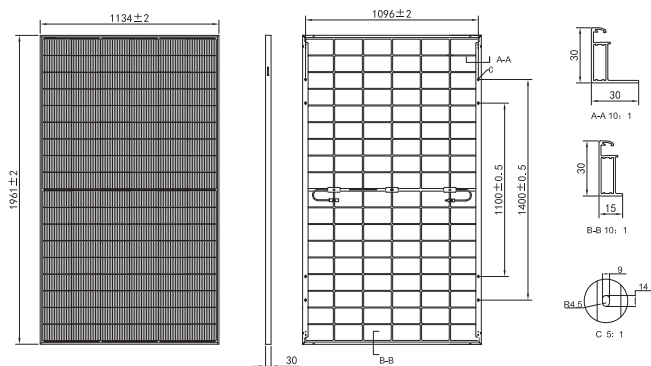


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DRAWINGS (Unit: mm)



ELECTRICAL CHARACTERISTICS (STC)

Module Type: TWMNH-54HDXXX					
Maximum Power: Pmax [W]	495	500	505	510	515
Open Circuit Voltage: Voc [V]	39.88	40.06	40.24	40.42	40.60
Short Circuit Current: Isc [A]	15.86	15.89	15.92	15.95	15.98
Voltage at Maximum Power: Vmp [V]	33.45	33.70	33.94	34.19	34.43
Current at Maximum Power: Imp [A]	14.80	14.84	14.88	14.92	14.96
Module Efficiency: η [%]	22.3	22.5	22.7	22.9	23.2

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass1.5

ELECTRICAL CHARACTERISTICS (NMOT)

Maximum Power: Pmax [W]	374	378	381	385	389
Open Circuit Voltage: Voc [V]	37.97	38.14	38.31	38.48	38.65
Short Circuit Current: Isc [A]	12.80	12.83	12.85	12.88	12.90
Voltage at Maximum Power: Vmp [V]	31.30	31.56	31.73	31.96	32.21
Current at Maximum Power: Imp [A]	11.95	11.98	12.01	12.05	12.08

* NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

Electrical characteristics with different rear side power gain

5%	Maximum Power: Pmax [W]	519	525	530	535	540
	Module Efficiency: η [%]	23.3	23.6	23.8	24.1	24.3
15%	Maximum Power: Pmax [W]	569	575	580	586	592
	Module Efficiency: η [%]	25.6	25.9	26.1	26.4	26.6
25%	Maximum Power: Pmax [W]	618	625	631	637	643
	Module Efficiency: η [%]	27.8	28.1	28.4	28.6	28.9

TEMPERATURE RATING

Temperature Coefficient of Pmax	-0.28%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	+0.046%/°C
NMOT	45±2°C

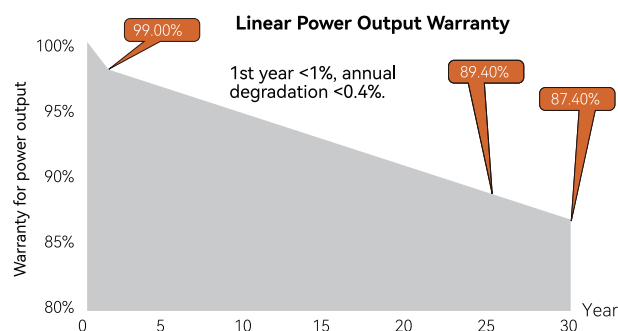
OPERATING PARAMETERS

Operating Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Output Tolerance	0~+3%

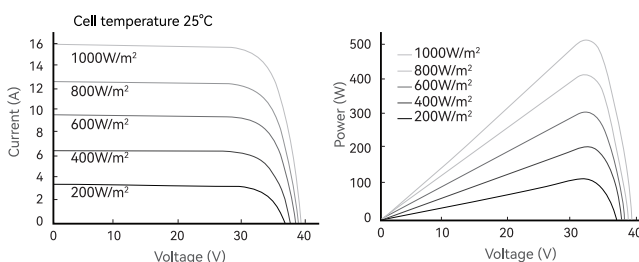
MECHANICAL PARAMETERS

Cell Type	TNC (N Type Monocrystalline Cell)
Cell Orientation	108[6×18]
Dimensions	1961±2×1134±2×30mm
Weight	27.4 kg
Front Glass	2.0mm AR coated heat strengthened glass
Rear Glass	2.0mm heat strengthened glass
Frame	Anodized aluminum alloy frame
Junction Box	IP68, 3 diodes
Cable	4.0mm ²
Cable length	±1200mm, length can be customized
Wind/Snow load	2400Pa/5400Pa
Packaging	36pcs per pallet, 864pcs per 40'HC

WARRANTY



I-V CURVE



CERTIFICATIONS

Quality Management System and Product Certification

- ISO 9001: 2015/Quality management system
- ISO 14001: 2015/Environmental management system
- ISO 45001: 2018/Occupation health safety management system
- ISO 50001: 2018/Energy management system
- IEC 62941: 2019/Quality system for PV module manufacturing
- IEC 61215/61730, IEC 62804(PID), IEC 61701(Salt), IEC 62716 (Ammonia), IEC 60068-2-68(Sand)

