

Deye Hybrid Inverter

3.6-8 kW Single-Phase | 5-12 kW Three-Phase
5-50kWh System



4 ms ultra-fast grid to
back-up power switching time



2× rated power
for 10 seconds



Quick and **simple**
setup



Smart **EMS** with
real-time monitoring



One-click diagnostics
via Deye Cloud



IP65 protection for reliable
outdoor performance



Deye Hybrid Inverter | 3.6-8 kW Single-Phase

Model (Single-phase)	AI-W5.1-3.6P1-AU-B	AI-W5.1-5P1-AU-B	AI-W5.1-6P1-AU-B	AI-W5.1-8P1-AU-B	AI-W5.1-10P1-AU-B
Battery Input Data					
Battery Type	Lithium-ion				
Battery Voltage	40-60				
Max. Charging Current(A)	90	120	135	190	210
Max. Discharging Current(A)	90	120	135	190	210
Charging Strategy for Li-Ion Battery	Self-adaption to BMS				
Number of Battery Input	1				
PV String Input Data					
Max. PV access power(W)	7200	10000	12000	16000	20000
Max. PV Input Power(W)	5760	8000	9600	12800	16000
Max. PV Input Voltage(V)	500				
Start-up Voltage(V)	125				
PV Input Voltage Range(V)	125-500				
MPPT Voltage Range(V)	150-425				
Full Load MPPT Voltage Range(V)	300-425		200-425		250-425
Rated PV Input Voltage(V)	370				
Max. Operating PV Input Current(A)	18+18			32+32	
Max. Input Short-Circuit Current(A)	27+27			48+48	
No.of MPPT Trackers/No.of String MPPT Tracker	2/1+1			2/2+2	
Max. Inverter Backfeed Current to The Array	0				
AC Input/Output Data					
Rated AC Input/Output Active Power(W)	3600	5000	6000	8000	9999
Max. AC Input/Output Apparent Power(VA)	3600	5000	6000	8000	9999
Peak Power (off-grid)(W)	2 times of rated power, 10s				
Rated AC Input/Output Current(A)	15.7	21.8	26.1	34.8	43.5
Max. AC Input/Output Current(A)	15.7	21.8	26.1	34.8	43.5
Max. Continuous AC Passthrough (grid to load)(A)	35		40	50	
Max. Output Fault Current(A)	31.4	43.4	52.2	66	100
Max. Output Overcurrent Protection(A)	80			140	
Rated Input/Output Voltage/Range(V)	230V/240V 0.85Un-1.1Un				
Grid Connection Form	L+N+PE				
Rated Input/Output Grid Frequency/Range	50Hz/45Hz-55Hz				
Power Factor Adjustment Range	0.8 leading-0.8 lagging				
Total Current Harmonic Distortion THDi	<3% (of nominal power)				
DC Injection Current	<0.5%In				
Efficiency					
Max. Efficiency	97.60%				
Euro Efficiency	96.50%				
MPPT Efficiency	>99%				
Equipment Protection					
DC Polarity Reverse Connection Protection	Yes				
AC Output Overcurrent Protection	Yes				
AC Output Overvoltage Protection	Yes				
AC Output Short Circuit Protection	Yes				
Thermal Protection	Yes				
Arc fault circuit interrupter (AFCI)	Optional				
Power Network Monitoring	Yes				
Island Protection Monitoring	Yes				
Earth Fault Detection	Yes				
DC Input Switch	Yes				
Overvoltage Load Drop Protection	Yes				
Residual Current (RCD) Detection	Yes				
Anti-islanding Protection	Yes(Active Frequency Shift)				
Surge Protection Level	TYPE II(DC), TYPE II(AC)				
Interface					
Display	LCD+LED				
Communication Interface	RS232, RS485, CAN				
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN (optional)				
PV Connection	VP-D4				
General Data					
Operating Temperature Range	-40 to +60°C, >45°C Derating				
Permissible Ambient Humidity	0-100%				
Permissible Altitude	2000m				
Noise	<30 dB(A)				
Ingress Protection(IP) Rating	IP 65				
Inverter Topology	Non-Isolated				
Over Voltage Category	OVC II(DC), OVC III(AC)				
Protection Level	Class I				
Cabinet size(W*H*D) [mm]	720W×399.2H×256D (Excluding connectors and brackets)				
Weight(kg)	31.6				
Warranty	10 Years				
Type of Cooling	Intelligent Air Cooling				
Grid Regulation	AS/NZS 4777.2				
Safety EMC/Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2				

Deye Hybrid Inverter | 5-12 kW Three-Phase

Model (Three-phase)	AI-W5.1-5P3-AU-B	AI-W5.1-6P3-AU-B	AI-W5.1-8P3-AU-B	AI-W5.1-10P3-AU-B	AI-W5.1-12P3-AU-B
Battery Input Data					
Battery Type	Lithium-ion				
Battery Voltage	40-60				
Max. Charging Current(A)	120	150	190	210	240
Max. Discharging Current(A)	120	150	190	210	240
Charging Strategy for Li-Ion Battery	Self-adaption to BMS				
Number of Battery Input	1				
PV String Input Data					
Max. PV access power(W)	10000	12000	16000	20000	24000
Max. PV Input Power(W)	7500	9000	12000	15000	18000
Max. PV Input Voltage(V)	800				
Start-up Voltage(V)	160				
PV Input Voltage Range(V)	160-800				
MPPT Voltage Range(V)	200-650				
Full Load MPPT Voltage Range(V)	350-650				
Rated PV Input Voltage(V)	550				
Max. Operating PV Input Current(A)	20+20			36+20	
Max. Input Short-Circuit Current(A)	30+30			54+30	
No.of MPPT Trackers/No.of String MPPT Tracker	2/1+1			2/2+1	
Max. Inverter Backfeed Current to The Array	0				
AC Input/Output Data					
Rated AC Input/Output Active Power(W)	5000	6000	8000	10000	12000
Max. AC Input/Output Apparent Power(VA)	5000	6000	8000	10000	12000
Peak Power (off-grid)(W)	2 times of rated power, 10s				
Rated AC Input/Output Current(A)	7.2	8.7	11.6	14.5	17.4
Max. AC Input/Output Current(A)	7.2	8.7	11.6	14.5	17.4
Max. Continuous AC Passthrough (grid to load)(A)	45				
Max. Output Fault Current(A)	14.4	17.4	23.2	29	34.8
Max. Output Overcurrent Protection(A)	70				
Rated Input/Output Voltage/Range(V)	230V/400V 240V/415V 0.85Un-1.1Un				
Grid Connection Form	3L+N+PE				
Rated Input/Output Grid Frequency/Range	50Hz/45Hz-55Hz				
Power Factor Adjustment Range	0.8 leading-0.8 lagging				
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					
DC Polarity Reverse Connection Protection	Yes				
AC Output Overcurrent Protection	Yes				
AC Output Overvoltage Protection	Yes				
AC Output Short Circuit Protection	Yes				
Thermal Protection	Yes				
Arc fault circuit interrupter (AFCI)	Optional				
Power Network Monitoring	Yes				
Island Protection Monitoring	Yes				
Earth Fault Detection	Yes				
DC Input Switch	Yes				
Overvoltage Load Drop Protection	Yes				
Residual Current (RCD) Detection	Yes				
Anti-islanding Protection	Yes(Active Frequency Shift)				
Surge Protection Level	TYPE II(DC), TYPE II(AC)				
Interface					
Display	LCD+LED				
Communication Interface	RS232, RS485, CAN				
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN (optional)				
PV Connection	VP-D4				
General Data					
Operating Temperature Range	-40 to +60°C, >45°C Derating				
Permissible Ambient Humidity	0-100%				
Permissible Altitude	2000m				
Noise	≤ 55 dB				
Ingress Protection(IP) Rating	IP 65				
Inverter Topology	Non-Isolated				
Over Voltage Category	OVC II(DC), OVC III(AC)				
Protection Level	Class I				
Cabinet size(W*H*D) [mm]	720W×440H×254D (Excluding connectors and brackets)				
Weight(kg)	39.75				
Warranty	10 Years				
Type of Cooling	Intelligent Air Cooling				
Grid Regulation	AS/NZS 4777.2				
Safety EMC/Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2				