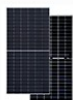


Hybrid 16kWh Solar System

Fully set include:

Solar Panel:

620W*16pcs



Inverter:

11kW Hybrid*1pc



Battery:

51.2V 314AH*1pc
(LifePo4 Battery)



Solar Panel Rack:

Roof Type



Cables:

International standard
1*4mm² series
red and black



WIFI Module (optional):

Monitor, troubleshoot,
or communication*1pcs



MC4:



PV Combiner Box:

1pc



CSA Solar · 16 kWh Hybrid Solar System

Detailed Spec Sheet

Spec 1 of 3 · 16.08 kWh LiFePO4 battery (51.2 V / 314 Ah) specifications

1 Battery · LiFePO4 Energy Storage		Model: Matrix-16.0 / Luna-16.0 · CSA in-house made
ENERGY & CAPACITY		
Usable energy	16.08 kWh	
Nominal voltage	51.2 V (16S LiFePO4)	
Nominal capacity	314 Ah	
Operating voltage range	42.6 – 58.4 V	
Cell technology	LiFePO ₄ (LFP)	
CHARGE / DISCHARGE LIMITS		
Max charge current (battery-side cap)	140 A · 7.17 kW	
Max discharge current	150 A	
OPERATING CONDITIONS		
Charge temperature	0 – 45 °C	
Discharge temperature	-20 – 60 °C	
Humidity	≤ 95 % RH (no condensation)	
IP rating	IP20 (indoor)	
MECHANICAL & LIFECYCLE		
Dimensions (W×H×D)	Matrix 479 × 890 × 274 mm (with wheels) · Luna 465 × 933 × 260 mm (with wheels)	
Weight	Matrix 122 kg	
Installation	Floor stand (with wheels)	
Cycle life	6,000 cycles @ 80 % DoD	
Scalability	Multiple units in parallel	
INTERFACE & COMPLIANCE		
Communication	RS485 / CAN / RS232 (Matrix) · CAN / LAN / RS485 / RS232 (Luna)	
Display	SOC LED indicator + LCD display	
Compatible inverters	Major brands (Haishang, Victron, Deye, Growatt, SMA, etc.)	
Compliance	UN38.3 / IEC 62619 / IEC 61000	
Application	On-grid / Backup / Off-grid	
Warranty	5 years (standard)	

2 Inverter · 11 kW Single-Phase Hybrid

Model: HE300-12000-F

AC OUTPUT

AC rated output power	11 kW
Nominal AC voltage	240 VAC ± 5 % (single phase)
Nominal AC frequency	60 Hz
Nominal AC output current	50 A
Output waveform	Pure sine wave
Phase	1
Max efficiency	98 %

BATTERY INTERFACE (DC)

Battery rated voltage	48 V (compatible with 51.2 V LFP)
Battery type	AGM / Lithium (LFP)
Battery charge / discharge current	150 A · up to 7.68 kW

PV INPUT (DC)

Maximum PV input power	7.5 kW
MPPT voltage range	90 – 500 V
Max PV open-circuit voltage	500 V
Max PV DC input current	27 A
MPPT trackers	2

MECHANICAL & ENVIRONMENTAL

Cooling	Intelligent air cooling
Operating temperature	-10 – 50 °C
IP rating	IP21 (indoor)
Dimensions (W×H×D)	550 × 466 × 144 mm
Net / gross weight	21 kg / 24 kg
Packaging size	633 × 550 × 235 mm

GENERAL

Working mode	Hybrid (on-grid + off-grid)
Output Topology	L1+N1+L2+N2+PE

Note · The HE300-12000-FP-I5 variant (IP54, 22.9 kg, 600 × 505 × 245 mm) is available for outdoor installations; specs identical otherwise.

CSA Solar · 16 kWh Hybrid Solar System

Detailed Spec Sheet

Spec 3 of 3 · 620 W LUXEN PV module × 16 pcs + charging-time reference

3 PV Module · 620 W N-type Bifacial · 16 pcs		Model: LNDT-620ND · LUXEN SOLAR · LUXPOWER® Series N5	
STC ELECTRICAL PERFORMANCE (1000 W/M², 25 °C)			
Maximum power (Pmax)	620 W		
Module efficiency	22.95 %		
Voltage at Pmax (Vmpp)	41.33 V		
Current at Pmax (Impp)	15.00 A		
Open-circuit voltage (Voc)	49.32 V		
Short-circuit current (Isc)	15.92 A		
Power tolerance	0 / +5 W		
NMOT (NOCT) CONDITIONS · 800 W/M², 20 °C, AM 1.5, 1 M/S WIND			
NMOT maximum power (Pmax)	466.0 W		
NMOT Vmpp / Voc	38.83 V / 46.33 V		
NMOT Impp / Isc	12.00 A / 12.74 A		
Nominal operating temperature	45 ± 2 °C		
BIFACIAL GAIN (REAR-SIDE)			
+5 % rear gain / Pmax	23.32 % / 651 W		
+15 % rear gain / Pmax	26.40 % / 713 W		
+25 % rear gain / Pmax	28.69 % / 775 W		
MECHANICAL & ENVIRONMENTAL			
Cell technology	N-type Mono (LECO / SMBB) · 132 cells (6 × 22)		
Dimensions (L × W × H)	2382 × 1134 × 30 mm		
Weight	33.5 kg		
Front / rear static load	5400 Pa / 2400 Pa		
Junction box	IP68 · 3 bypass diodes · MC4 compatible		
Max system voltage	1500 V DC (IEC)		
Max series fuse rating	30 A		
Operating temperature range	-40 °C to +85 °C		
TEMPERATURE COEFFICIENTS · WARRANTY			
Temp. coeff. Pmax / Voc / Isc	-0.29 % / -0.25 % / +0.045 % per °C		
Product warranty	15 years		
Linear power warranty	30 years · 87.4 % at year-30		
Certifications	ISO 9001 / 14001 / 45001, IEC 61215, 61730, 61701, 62716, CE		

Charging time reference · Battery max charge current 140 A × 51.2 V = **7.17 kW** caps the charging power. With 16 × 620 W (9.92 kWp) on a sunny day (~8.43 kW real output → ~8.26 kW after conversion), the array has more than enough headroom — the battery is now the bottleneck: **0 % → 100 % in about 2.2 hours** (cloudy ~3.2 h · with 1 kW home load ~2.7 h). All figures at 25 °C and STC conditions.