NEXTSUN®
The Sun Division From Nextlite

Integrated Energy Storage System

X3-IES

5.0kW / 8.0kW / 10.0kW / 12.0kW / 15.0kW

Economic

- All in one design, plug and play, expandable and installation easily
- Maximum 200% oversize and 200% PV input power
- Maximum 20A DC single string input current, support high power solar panel
- Low start output voltage makes inverter longer working time
- Built-in shadow tracking function

Intelligent

- AI ready, forecasting solar generation and home consumption, smart energy management strategy
- VPP ready, SolaX cloud support resource aggrega-tor(IEEE 2030.5, OpenADR)
- Micro-grid ready, supporting a variety of scenarios, both on-grid and off-grid, balancing power between PCS and Hybrid in real time.
- Support smart scene function, intelligent loads manage-ment(e.g., Heat pump, EV charger)
- Support 7×24h scheduling mode
- Support Wireless meter solution

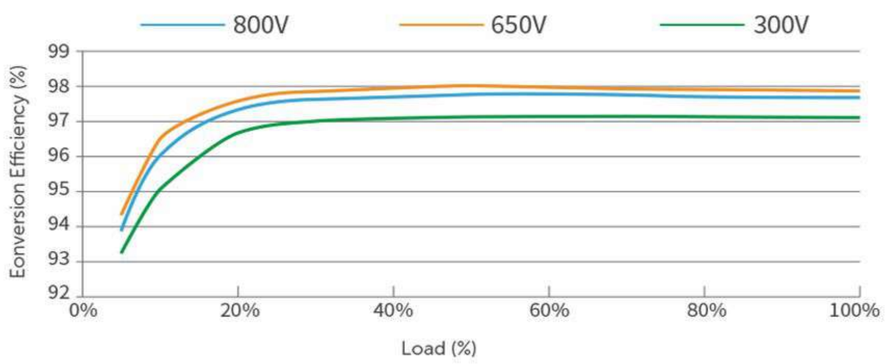
Safe

- IP66 protection level
- AC&DC SPD type II, always guarding the inverter
- AFCI optional

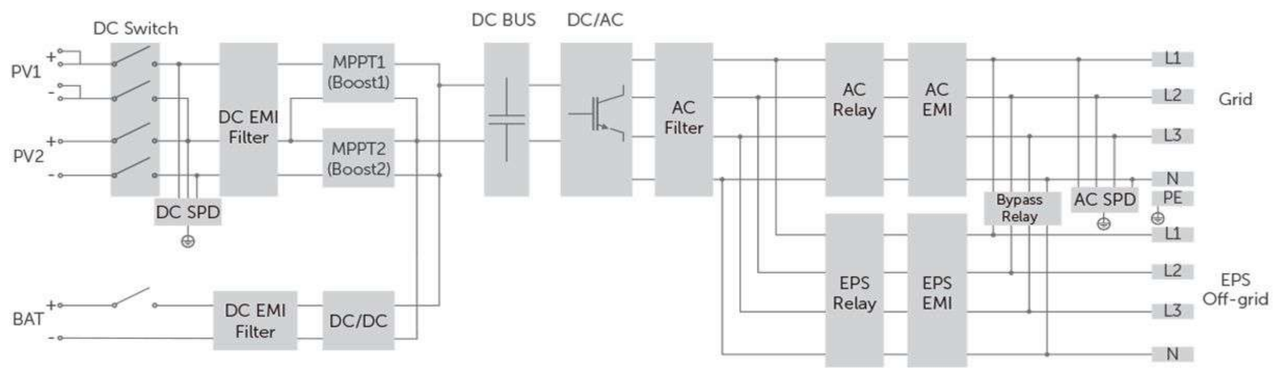
Robust

- Robust back-up ability, switchover time <10ms(UPS level) , up to 200% EPS output for 10s, support half-wave loads
- Battery heating technology, -30°C extreme environment operation

Efficiency Curve



Circuit Diagram



SYSTEM OVERVIEW

System schematic

Rated output power [kW]	4 / 5 / 6 / 8 / 10 / 12 / 15				
Number of batteries	2	3	4	5	6
Nominal capacity [kWh]①	10.2	15.3	20.4	25.6	30.7
Usable energy [kWh]②	9.2	13.8	18.4	23.0	27.6
Max. charge / discharge power [kW]③	10.2	15	15	15	15
Degree of protection	IP66				
Operating temperature range [°C]	-30 to 53				
Allowable relative humidity range [%]	5-95 (No condensation)				
Max. operating altitude [m]	3000				
Net weight [kg]④	144.2	191.2	144.2 / 100.5	144.2 / 147.5	191.2 / 147.5
Dimension (W x H x D) [mm]	730 × 1281 × 209.5	730 x 1599 x 209.5	730 × 1281 × 209.5/ 730 × 809 × 150	730 × 1281 × 209.5/ 730 × 1127 × 150	730 × 1599 × 209.5/ 730 × 1127 × 150
Display	LCD				
Cooling concept	Natural cooling				
Topology	Non-isolated				
Communication	RS485, Pocket-X, USB, CAN, DO, DI				

① Test conditions: 25°C, 100% depth of discharge (DoD), 0.2C charge & discharge.
② System usable energy may vary with inverter different setting.
③ The max.charge/discharge power must not exceed the rated output power (the table takes the maximum power inverter as an example).
④ Different inverter models have different weights. The heaviest one is taken as an example.

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	X3-IES-4K	X3-IES-5K	X3-IES-6K	X3-IES-8K	X3-IES-10K	X3-IES-12K	X3-IES-15K
INPUT PV							
Max. recommended PV array power [Wp]	8000	10000	12000	16000	20000	24000	30000
Max. DC voltage [V]	1000						
Nominal DC operating voltage [V]	600						
Max. input current (input PV1 / input PV2) [A]	PV1: 20 / PV2: 20			PV1: 32① / PV2: 20			
Max. short circuit current (input PV1 / input PV2) [A]	PV1: 25 / PV2: 25			PV1: 40 / PV2: 25			
MPPT voltage range② [V]	110 to 950						
Start output voltage [V]	140						
No. of MPP trackers / Strings per MPP tracker	2 / (1 / 1)	2 / (1 / 1)	2 / (1 / 1)	2 / (2 / 1)	2 / (2 / 1)	2 / (2 / 1)	2 / (2 / 1)
INPUT AC							
Norminal AC power [VA]	10000	10000	12000	16000	20000	20000	20000
Max. AC current [A]	16.1	16.1	19.3	25.8	32.0	32.0	32.0
Rated grid Frequency [Hz]	50 / 60						
Power factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)						
OUTPUT AC(On-Grid)							
Nominal AC power [VA]	4000	5000	6000	8000	10000 (AS4777 9999)	12000	15000
Max. apparent AC power [VA]	4000	5500	6600	8800	10000 (AS4777 9999)	13200	16500
Rated grid voltage(AC voltage range) [V]	3P4W, 380 / 400						
Rated grid Frequency [Hz]	50 / 60						
Rated AC Output Current [A] (at 230V, 50Hz)	5.8	7.3	8.7	11.6	14.5	17.4	21.8
Max. AC current [A] (at 230V, 50Hz)	5.8	8	9.6	12.8	14.5	19.2	24.0
Displacement power factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)						
Total harmonic distortion (THDi, rated power) [%]	< 3						
EPS OUTPUT(With Battery)							
EPS peak power [VA]	≤1.1Pn continuous operation; 1.1Pn-2Pn 10s; >2Pn report error immediately						
EPS rated power [VA]	4000	5000	6000	8000	10000	12000	15000
EPS rated voltage [V], Frequency [Hz]	3P4W, 380 / 400, 50/60						
EPS rated current [A]	5.8	7.3	8.7	11.6	14.5	17.4	21.8
Switchover time [ms]	< 10						
Total harmonic distortion (THDv, linear Load) [%]	< 3						
Half wave loads [kW]	< 2						
BATTERY							
Battery voltage range [V]	160 ~ 800						
Communication interfaces	CAN / RS485						
BMS module	TBMS-MCS0800E						
Battery module	TP-HS50E						
Composition	TBMS-MCS0800E + TP-HS50E * n + Base Dimensions + Series Box (Required for two columns)						
Battery type	Li-ion (LFP)						
Nominal capacity [kWh] / Nominal capacity [Ah]③	5.1 / 50						
Usable energy [kWh]④	4.6						
Standard power [kW]	3						

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BATTERY							
Max power [kW]	5.1						
Max. charge / discharge current [A]⑤	50						
Cycle life [Cycles]	> 6000						
Warranty [Years]	10						
Safety	CE, RCM, TUV (IEC62619), RoHS, REACH						
TBMS-MCS0800E dimensions(W x H x D) [mm] / Weight [kg]	730 × 165 × 150 / 9.3						
TP-HS50E dimensions(W x H x D) [mm] / Weight [kg]	730 × 318 × 150 / 47						
Base dimensions(W x H x D) [mm] / Weight [kg]	730 × 75 × 150 / 3.9						
Series box dimensions(W x H x D) [mm] / Weight [kg]	167 × 91.5 × 121 / 1.3						
EFFICIENCY							
Max. efficiency [%] / Euro-efficiency [%]	98 / 97.7						
Rated battery charge [%] / Discharge efficiency [%]	98.5 / 97						
GENERAL DATA (Inverter)							
Dimensions (W x H x D) [mm]	717 × 405 × 209.5						
Weight [kg]	35					37	
Operating temperature range [°C]	– 35 to 60 (derating at +45)						
Relative humidity [%]	0 to 100 (condensing)						
Storage temperature [°C]	– 40 to 65						
Noise emission (typical) [dB(A)]	< 33						
Internal consumption (night) [W]	< 40 for hot standby, < 5 for cold standby						
Idle mode	Yes						
PROTECTION							
Anti-Islanding protection	Yes						
DC reverse polarity protection	Yes						
Insulation monitoring	Yes						
Residual current monitoring	Yes						
AC overcurrent protection	Yes						
AC short-circuit protection	Yes						
AC overvoltage protection	Yes						
Over-heat protection	Yes						
AFCI	OPT						
Surge protection	Type Ⅱ, DC and AC						
STANDARD							
Safety	IEC62109-1 / IEC62109-2						
EMC	EN 61000-6-1 / EN 61000-6-2 / EN 61000-6-3						
Certification	VDE 0126-1-1 A1:2012 / VDE-AR-N 4105 /G98/G99/ AS4777 / EN50549/ CEI 0-21						