Online UPS

ES-SU6K series

■ Features

- Supporting connection to fuel generators
- Ultra-wide input voltage range: 110V to 300Vac
- Input power factor ≥0.99
- Input current harmonic distortion<4%
- Output power factor of 1
- 50Hz/60Hz frequency conversion mode
- Emergency power-off function (EPO)
- USB/RS-232 communication interfaces
- LCD display panel
- Intelligent charging mode, adjustable charging current
- 3-year warranty

■ Applications

- Data center
- Financial institution
- Smart Buildings
- Industrial automation

■ Global Trade Item Identifier

- MW Search：http://www.meanwell.com.cn/serviceGTIN.aspx

■ Description

ES-SU6K is a 6KVA online UPS power supply, providing rack type and tower type two appearance structures, using advanced digital control technology, combined with high integrated circuits and optimized design, enhance anti-interference ability, and ensure stable performance. The product has a full load efficiency of up to 95%, an input power factor of over 0.99, and a current harmonic of less than 4%, which can effectively prevent additional energy loss and reduce grid pollution. Its ultra-wide voltage input range is compatible with unstable power grids and fuel generators, which can easily cope with harsh power environments, reduce the need for frequent switching to battery power, and accurately match the needs of highly sensitive loads such as servers and medical equipment. In addition, the product has built-in EPO emergency power-off function and USB/RS-232 dual communication interfaces, which further strengthens the system security and remote control capabilities, It provides efficient, stable and flexible power protection solutions for key scenarios such as data centers, intelligent manufacturing, and communication base stations.

■ Drive Model Encoding

ES - SU6K - TH

- TH: Exterior structure (TH: Tower, RH: Rack)
- SU6K: Power
- SU6K: Series Name
- ES: Product Categories (ES: Energy Storage category)

Online UPS

ES-SU6K series

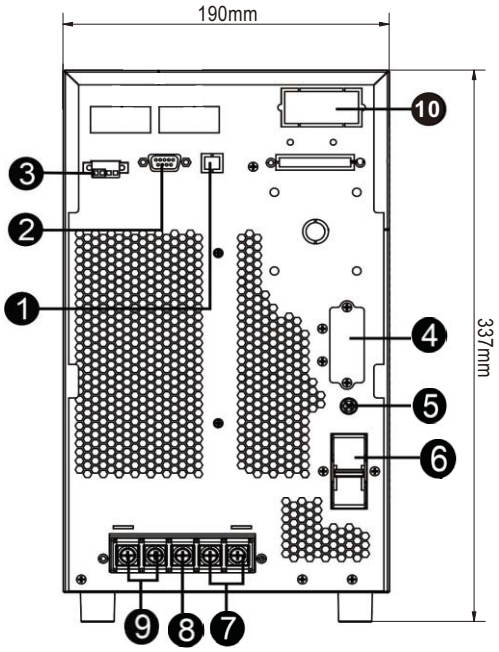
Specification		ES-SU6K-TH	ES-SU6K-RH
INPUT			
Nominal Voltage		110~300Vac±3% at 60% load； 176~300Vac±3% at 100% load	
Frequency Range		46~54Hz/56~64Hz/40~70Hz(in generator mode)	
Power Factor		≥0.99@full load	
THDi		<4%@100%R load	
Battery			
Battery Parameter (N)		N=16-20	
Charging Voltage Range (FV)		12V*N(N=16~20,depended on the parameter of UPS batteries configured.)	
Low-Voltage Protection Point		10.7V*N	
High-Voltage Protection Point		14.4V*N	
Charing Current (CC)		1/2/4/6/8A adjustable,2A(Default)	
OUTPUT			
Power		6KVA/6KW	
Output Voltage		208/220/230/240Vac	
AC Voltage Regulation		±1%	
Frequency	AC Mode	46~54Hz/56~64Hz	
	Battery Mode	50/60±0.1Hz	
Waveform	Battery Mode	Pure Sinewave	
Harmonic Distortion		≤1%THD(linear load);≤4%THD(Non-linear Load)	
Transfer Time	AC to Battery	0	
	Online to Bypass	0	
Overload	AC Mode	100%-110%, 60 min; 110%-125%, 10 min; 125%-150%, 1 min; >150%, immediately	100%-110%, 60 min; 110%-125%, 10 min; 125%-150, 1min; >130%, immediately
	Battery Mode	100%-110%, 3min; 110%-130%, 30s; >130%, immediately	
Efficiency	AC Mode	95%	
	Battery Mode	92%	
SAFETY & EMC			
SAFETY STANDARDS		EN IEC 62040-1:2019/A1:2023,YD/T1095-2018	
EMC EMISSION		Parameter	Standard	Test Level / Note
		Conducted emission	EN IEC 62040-2:2018	C3
		Radiated emission	EN IEC 62040-2:2018	C3
		Harmonic current	EN 61000-3-12:2011	Class A
		Voltage flicker	EN IEC 61000-3-11:2019	Clause 5
EMC IMMUNITY		Parameter	Standard	Test Level / Note
		ESD	IEC 61000-4-2:2008	Level 3, 4KV air ; Level 2: 4KV contact
		RS	IEC 61000-4-3:2006	Level 3
		EFT	IEC 61000-4-4:2012	Level 4,1KV
		Surge	IEC 61000-4-5:2014	Level 4,1KV/Line-Line 2KV/Line-Earth
		Conducted	IEC 61000-4-6:2013	Level 3
		Magnetic Field	IEC 61000-4-8:2009	Level 4
		Voltage Dips and Interruptions	EN IEC 61000-4-11:2020	100% residual voltage for 0.5cycle; 100% residual voltage for 1cycle; 100% residual voltage for 250cycle; 30% residual voltage for 25cycle
OTHER				
Communication interface		RS232/USB	
Phase		1 phase in/1 phase out	
Display		LCD	
Operating temperature		0~40℃	
Humidity		20-90% relative humidity(non-condensing)	
Elevation		1000m	
Struture		Tower	Rack
Weight		14kg	11kg
Size		404*190*337mm	515*438*88mm(2U)

NOTE

1. Derate capacity to 60% of capacity in CVCF mode
2. Derate capacity to 90% when the output voltage is adjusted to 208VAC or parallel svstem is operated
3. When using 16 pieces of balteres.the outpu power factor wl be derated to 0.8.
4. fuing 18 or 19 pieces of batenes. the outout power factor wil be derated to 0.9
5. if the UPS is installed or used in a place where the altitude is above than 1000m. the outout power must be derated one percent per 100m.
6.The battery parameter setting is introduced in Sections 3-6 and 18 of the Reference Manual.

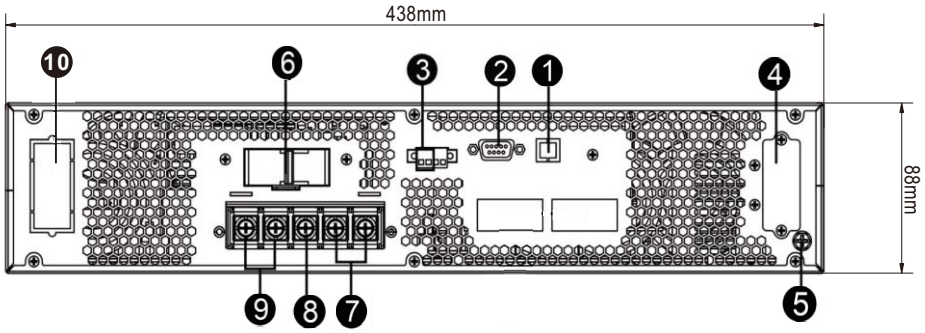
■ Mechanism Dimension

■ ES-SU6K-TH



(404*190*337mm)

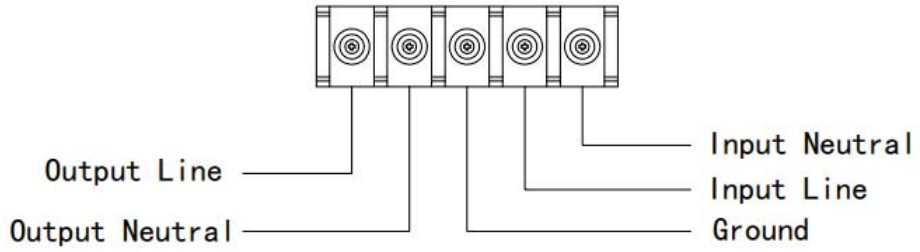
■ ES-SU6K-RH



(515*438*88mm)

1: USB communication port
2: RS-232 communication port
3: Emergency shutdown function interface(If the EPO terminal is open-circuited, the UPS output will be turned off. This terminal is short-circuited at the factory.)
4: External battery connector
5: External battery grounding screws
6: Line input circuit breaker/switch
7: AC input terminal
8: Ground terminal
9: Output terminal
10.Control Card Slot

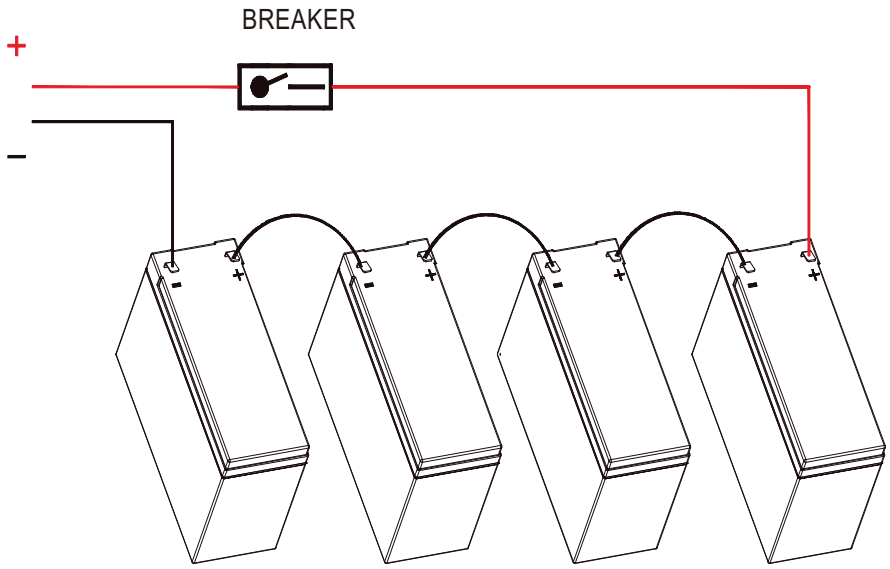
Remove the terminal block protective cover on the back panel of the UPS. Next, follow the following terminal block diagram to wiring the wire: (When wiring, connect the ground wire first.)When removing the wiring, leave the groundwire for last!)



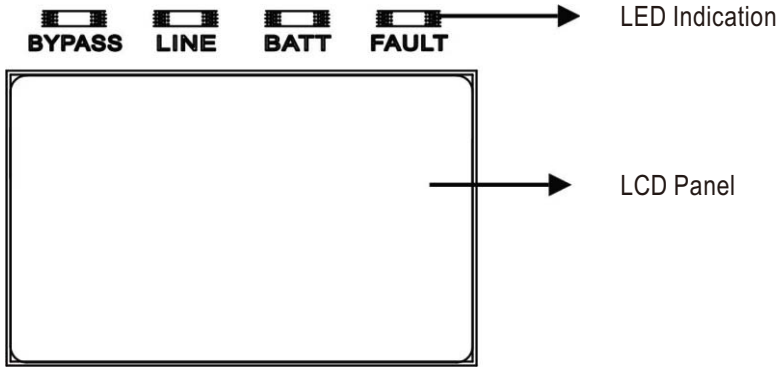
Model	Cabling Specifications(mm²)			
	Input	Output	Battery	Ground
ES-SU6K	6	6	6	6

Note 1: Cables must use 6mm² or higher in order to balance safety and efficiency.
Note 2: The color of the wire rod must comply with the local electrical regulations

Connecting the battery: When connecting the battery box, be sure to confirm that the polarity of the battery is correctly connected.
Required specifications of circuit breaker: voltage ≥ 1.25x battery voltage / number of groups, current≥ 50A
Please select the appropriate battery size and connection quantity according to the needs of the birth time and the specifications of the UPS.



■ LED Indication and LCD Panel

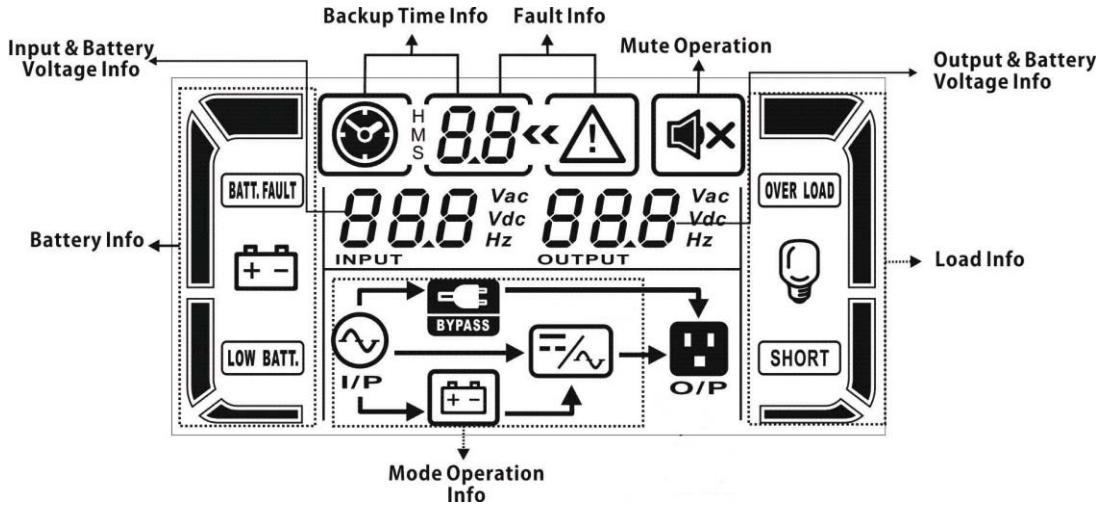


There are 4 LEDs on the front panel to show the UPS operating status:

Status (LED)	Bypass	Line	Battery	Fault
UPS Start	●	●	●	●
No Input	○	○	○	○
Bypass Mode	●	○	○	○
AC Mode	○	●	○	○
Battery Mode	○	○	●	○
CVCF Mode	○	●	○	○
Battery Testing	●	●	●	○
ECO Mode	●	●	○	○
Fault	○	○	○	●

Note: ●means that the indicator light is on, and ○ means that the indicator light is off

■ LCD Panel



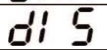
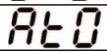
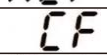
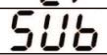
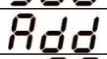
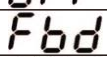
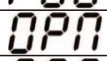
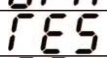
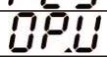
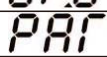
Diaplay	Function
Backup time information	
H M S 88	Indicates battery diacharge time in number H:hours, M: minutes, S: seconds
Fault information	
« ⚠	Indicates that the warning and fault occurs
88	Indicates the fault codes
Mute operation	
🔇	Indicates that the UPS alarm is disabled
Output & Input & Battery voltage information	
888 Vac Vdc Hz OUTPUT	Indicates the output voltage, frequency or battery voltage Vac: output voltage, Vdc: battery voltage, Hz: frequency
Load information	
	Indicates the load level by 0-25%、26-50%、 51-75%、and 76-100%。
OVER LOAD	Indicates overload
SHORT	Indicates the load or the output is short
Mode operation information	
I/P	Indicates the Ups connects to the mains.
	Indicates the battery is working
BYPASS	Indicates the bypass circuit is working
ECO	Indicates the ECO mode is enabled
	Indicates the Inverter circuit is working
O/P	Indicates the output is working

Battery information	
	Indicates the output is working.Indicates the Battery capacity by 0-25%,26-50%,51-75%,and 76-100%
BATT. FAULT	Indicates the battery is not connected
LOW BATT.	Indicates low battery level and low battery voltage
Input & Battery voltage information	
	Indicates the input voltage or frequency or battery voltage Vac: Input voltage, Vdc: battery voltage, Hz: input frequency

■ Audible Alarm

Description	Buzzer status	Muted
UPS status		
Bypass mode	Beeping once every 2 minutes	Yes
Battery mode	Beeping once every 4 seconds	
Fault mode	Beeping continuously	
Warning		
Overload	Beeping twice every second	Yes
Others	Beeping once every second	
Fault		
All	Beeping continuously	Yes

■ Abbreviation Meaning in LCD Display

Abbreviation	Display content	Meaning
ENA		Enable
DIS		Disable
ATO		Auto
BAT		Battery
NCF		Normal mode(not CVCFmode)
CF		CVCF mode
SUB		Subtract
ADD		Add
ON		On
OFF		Off
FBD		Not allowed
OPN		Allow
RES		Reserved
OP.V		Output voltage
PAR		Parallel

■ Accessories List

	Object	Number
1	User Manual	1
2	Monitoring software CD-ROMs	1
3	USB cable	1
4	Computer cables	1
5	Battery cable	1
6	Vertical tripod (only Rack)	2
7	Cabinet mounting brackets (only Rack)	2

■ Optional accessories(Need to be ordered separately)

Model	Item	Description	Funcation
PSWG-ES-SU-SNMP		SNMP Communication Card	・Multiple UPS systems can be controlled and monitored via the RJ-45 interface. ・UPS data (voltage, frequency, load level, battery capacity) is displayed in a real-time and dynamic graphical interface. ・Warning notifications can be sent via audible and visual alarms, broadcasts, mobile messengers, SNMP traps, and emails. ・Historical data can be stored in the database of the terminal computer. ・Simple firmware update. ・It has the functions of password security protection and remote access management.
PSWG-ES-SU-MOD		Modbus Card	・Multiple UPS systems can be controlled and monitored via the RS-485 interface. ・It supports the MODBUS RTU communication protocol. ・Data reading and writing operations can be performed via registers. ・It provides surge protection.
PSWG-ES-SU-AS9P		Relay Card(9-Pin wire-locking terminal)	・It provides contact signals to enable remote monitoring of the UPS. ・To meet different environmental requirements, the signal status (open circuit or closed circuit) of the dry contacts can be set via jumpers.
PSWG-ES-SU-ASDB9		Relay Card(DB9 connector)	