

SOFFAR

ENERGY TO POWER
YOUR LIFE

PRODUCT *catalogue*

Shenzhen SOFARSOLAR Co., Ltd.

SOFAR INTRODUCTION

SOFAR is a global leading provider of all-scenario solar PV and energy storage solutions and committed to be the leader of digital energy solutions. SOFAR supports the transition to renewable energy through a comprehensive portfolio including PV inverters range from 1kW to 350kW, hybrid inverters range from 3kW to 125kW, energy storage systems, C&I and utility BESS solutions, and SOFARCloud for residential, commercial & industrial, and utility-scale applications.

Founded in 2013, SOFAR has always insisted on independent innovation, established a global R&D network with three R&D centers and over 31% of its workforce assigned to R&D, thus gradually establishing the holistic technology and product R&D system.

SOFAR always insists on globalization thinking and localization action since its establishment and now has two global manufacturing bases of 16 inverter production lines and 4 battery production lines, with an annual production capacity of 14GW PV & storage inverters & 1GWh batteries. It has built an extensive service network of over 20 branch offices worldwide, such as the United Kingdom, Poland, Germany, South Korea, Pakistan, Australia, and so on. By the end of 2024, SOFAR had shipped over 37GW inverters to more than 100 countries and regions around the world.

As the world's fastest-growing solar energy brand, SOFAR stands firmly among the mainstream solar energy brands with a compound annual growth rate of over 100% from 2020 till 2022. Due to the abilities in cutting-edge solar technologies, SOFAR has achieved China "CQC" certification, Chinese Top 5 String Inverter Brand, TOP5 Global Hybrid Inverter Provider and and entitled by EuPD as TOP Brand PV Inverter in India, Poland, Australia, the U.K., Italy and Brazil.

Looking forward, SOFAR will adhere to its mission of "Technology Drives Green Energy" and its value of Virtue & Integrity, Collaboration & Effectiveness to build its core competitiveness in independent innovation in Net-Zero era, expecting to accelerate the global clean energy transition, leveraging its leading solar and energy storage products and solutions.

Learn more about SOFAR by visiting: <https://www.sofarsolar.com/>.

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PRODUCT PORTFOLIO

Single-phase Inverter

01-07

- SOFAR 1100TL-G3 / 1600TL-G3 / 2200TL-G3 / 2700TL-G3 / 3000TL-G3 / 3300TL-G3
 - SOFAR 1.1KTL3-G3 / 1.6KTL3-G3 / 2.2KTL3-G3 / 2.7KTL3-G3 / 3KTL3-G3 / 3.3KTL3-G3 / 4KTL3-G3 / 5KTL3-G3
 - SOFAR 3KTLM-G3 / 3.6KTLM-G3 / 4KTLM-G3 / 4.6KTLM-G3 / 5KTLM-G3 / 5KTLM-G3-A / 6KTLM-G3
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Three-phase Inverter

09-23

- SOFAR 3.3KTLX-G3 / 4.4KTLX-G3 / 5.5KTLX-G3 / 6.6KTLX-G3 / 8.8KTLX-G3 / 11KTLX-G3 / 10KTLX-G3-A / 12KTLX-G3
 - SOFAR 15KTLX-G3 / 17KTLX-G3 / 20KTLX-G3 / 22KTLX-G3 / 24KTLX-G3
 - SOFAR 15KTLX-G3P / 17KTLX-G3P / 20KTLX2-G3P / 23KTLX-G3P / 25KTLX-G3P
 - SOFAR 25KTLX-G3 / 30KTLX-G3 / 33KTLX-G3 / 36KTLX-G3 / 40KTLX-G3 / 45KTLX-G3 / 50KTLX-G3
 - SOFAR 60KTLX-G3 / 80KTLX-G3
 - SOFAR 100KTLX-G4 / 110KTLX-G4 / 125KTLX-G4 / 125KTLX-G4-A
 - SOFAR 250KTLX0 / 330KTLX0 / 350KTLX0
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Residential Energy Storage System

25-39

- HYD 5KTL-3PH / 6KTL-3PH / 8KTL-3PH / 10KTL-3PH / 10KTL-3PH-A / 15KTL-3PH / 20KTL-3PH
 - BTS E5-DS5 / E10-DS5 / E15-DS5 / E20-DS5
 - PowerAll
 - BT5000A
-

C&I Energy Storage System

41-49

- HYD-40K-T1 / 49.9K-T1-A / 50K-T1 / 60K-T1
 - SOFAR 80KTLX-G4-ESS / 99KTLX-G4-ESS / 100KTLX-G4-ESS / 110KTLXG4-ESS / 125KTLX-G4-ESS
 - CBS5000-H4-H / H5-H / H6-H / H7-H / H8-H / H9-H / H10-H / H11-H / H12-H
 - CBS8000-64KWH / 80KWH / 96KWH
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Smart Energy

51-63

- LSW-3 / WF-BLE / LSE-3
 - SEM5000
 - CH1000
 - PSC300
 - EV 11K-AC-02
 - SofarCloud
-

C&I ESS PowerMagic

65-77

- Energy Storage Cabinet – ESS-261KLC-SA1
 - EBI99K-R-G2 / EBI125K-R-G2

 - Energy Storage Cabinet – ESS-215KLA-SA1 / ESS-258KLA-SA1
 - Battery Cabinet – ESS-215KLA-BD1 / ESS-258KLA-BD1
 - Junction Cabinet – PAC-750K-H1
 - EBI 99K-R / EBI 125K-R
-

Utility BESS PowerMaster

79-95

- Liquid-cooled ES Container – ESS-5M16LG-BD1
 - EBI 215K-R
 - EBI2580K-DP
 - SP5260K-MV

 - Battery Container – ESS-3M44LA-BD1
 - Smart String PCS – EBI 1725K
 - SP3545K-MV
 - SP7100K-MV
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01 Single-phase Inverter

SOFAR 1100-3300TL-G3

1100 / 1600 / 2200 / 2700 / 3000 / 3300 W

Single-phase string inverter



High yield

- Max. efficiency up to 97.7%
- Feed-in limitation function
- 140% DC input overload capability



User-friendly design

- Lightweight, quick and easy to install
- IP65-rated for outdoor installation



Flexible communication

- Stable RS485 communication
- Optional: Wi-Fi/Ethernet

Model	SOFAR 1100TL-G3	SOFAR 1600TL-G3	SOFAR 2200TL-G3	SOFAR 2700TL-G3	SOFAR 3000TL-G3	SOFAR 3300TL-G3
Input (DC)						
Max. input voltage	500V			550V		
Rated input voltage				360V		
Start-up voltage				70V		
MPPT operating voltage range	50-500V			50-550V		
Number of MPP trackers				1		
Number of DC inputs				1		
Max. input MPPT current				12A		
Max. input short circuit current				15A		
Output (AC)						
Rated output power	1100W	1600W	2200W	2700W	3000W	3300W
Max. apparent power	1100VA	1600VA	2200VA	2700VA	3000VA	3300VA
Max. output current	5.3A	7.7A	10.6A	13A	14.5A	16A
Rated output voltage	L/N/PE, 230Vac					
Output voltage range	180Vac-276Vac					
Rated output frequency	50/60Hz					
Output frequency range	45Hz-55Hz / 55Hz-65Hz					
Active power adjustable range	0-100%					
THDi	< 3%					
Power factor	0.8 leading - 0.8 lagging					
Efficiency						
Max. efficiency	97.5%			97.7%		
European efficiency	96.9%			97.2%		
Protection						
DC reverse polarity protection				Yes		
Anti-islanding protection				Yes		
Leakage current protection				Yes		
Ground fault monitoring				Yes		
PV-array string fault monitoring				Yes		
DC switch				Yes		
SPD	PV: Type III, AC: Type III					
General Data						
Ambient temperature range	-30°C ~ +60°C					
Self-consumption at night	< 1W					
Topology	Transformerless					
Degree of protection	IP65					
Allowable relative humidity range	0-100 %					
Max. operating altitude	2000m					
Cooling	Natural					
Dimension (W×H×D)	303×260.5×118 mm			321×260.5×131.5 mm		
Weight	5.5 kg			6.3 kg		
Display	LCD					
Communication	RS485 / Wi-Fi					
Standard	IEC/EN 61000-6-1/3, IEC/EN 61000-3-2/3, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC/EN 62109-1/2, VDE-AR-N 4105, VDE V 0126-1-1, V 0124-100, C10/11, G98, EN 50549-1					

*All specifications are subject to change without notice.

SOFAR 1-5KTL3-G3

1.1 / 1.6 / 2.2 / 2.7 / 3 / 3.3 / 4 / 5 kW

Single-phase string inverter



High yield

- Up to 97.2% efficiency
- Low start-up voltage, wide MPPT range



Easy installation

- Compact and lightweight design
- Quick and simple installation



Safety

- AFCI function supported (optional)
- IP65-rated for outdoor use

Model	SOFAR 1.1KTL3-G3	SOFAR 1.6KTL3-G3	SOFAR 2.2KTL3-G3	SOFAR 2.7KTL3-G3	SOFAR 3KTL3-G3	SOFAR 3.3KTL3-G3	SOFAR 4KTL3-G3	SOFAR 5KTL3-G3
Input (DC)								
Max. input voltage	550V							600V
Rated input voltage	360V							
Start-up voltage	70V							
MPPT operating voltage range	50-550V							50-600V
Number of MPP trackers	1							
Number of DC inputs	1							
Max. input MPPT current	20A							
Max. input short circuit current	25A							
Output (AC)								
Rated output power	1100W	1600W	2200W	2700W	3000W	3300W	4000W	5000W
Max. apparent power	1100VA	1600VA	2200VA	2700VA	3000VA	3300VA	4000VA	5000VA
Max. output current	5.3A	7.7A	10.6A	13A	14.5A	16A	19.3A	24.1A
Rated output voltage	L/N/PE, 220Vac, 230Vac							
Output voltage range	180Vac-276Vac							
Rated output frequency	50/60Hz							
Output frequency range	45Hz-55Hz / 55Hz-65Hz							
Active power adjustable range	0-100%							
THDi	< 3%							
Power factor	0.8 leading - 0.8 lagging							
Efficiency								
Max. efficiency	≥ 97.2%							
European efficiency	≥ 96.8%							
Protection								
DC reverse polarity protection	Yes							
Anti-islanding protection	Yes							
Leakage current protection	Yes							
Ground fault monitoring	Yes							
PV-array string fault monitoring	Yes							
DC switch	Yes							
AFCI	Optional							
SPD	PV: Type III, AC: Type III							
General Data								
Ambient temperature range	-30°C ~ +60°C							
Self-consumption at night	< 1W							
Topology	Transformerless							
Degree of protection	IP65							
Allowable relative humidity range	0-100 %							
Max. operating altitude	4000m (> 2000m derating)							
Cooling	Natural							
Dimension (W×H×D)	321×260.5×131.5 mm						321×260.5×151.5 mm	
Weight	≤ 7 kg						≤ 7.3 kg	
Display	LCD & Bluetooth +APP							
Communication	RS485 / Wi-Fi							
Standard	IEC/EN 61000-6-1/3, IEC/EN 62109-1/2, EN 55011, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IS 16169 / IS 16221(BIS) G98, G99, C10/11, VDE-AR-N 4105, VDE V 0126-1-1, EN 50549-1/10							

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SOFAR 3-6KTLM-G3

3 / 3.6 / 4 / 4.6 / 5 / 6 kW

Single-phase string inverter



High yield

- Max. efficiency up to 98.4%
- Dual MPPT with 150% DC input overload capability
- Feed-in limitation function



User-friendly design

- Compact and lightweight structure
- Natural cooling with fanless, low-noise operation



Flexible communication

- RS485 / Bluetooth
- Optional: Wi-Fi / Ethernet

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Model	SOFAR 3KTLM-G3	SOFAR 3.6KTLM-G3	SOFAR 4KTLM-G3	SOFAR 4.6KTLM-G3	SOFAR 5KTLM-G3	SOFAR 5KTLM-G3-A	SOFAR 6KTLM-G3
Input (DC)							
Max. input voltage	600V						
Rated input voltage	380V						
Start-up voltage	90V						
MPPT operating voltage range	80-550V						
Number of MPPTs	2						
Number of DC inputs	1 for each MPPT						
Max. input MPPT current	15A / 15A						
Max. input short circuit current	22.5A / 22.5A						
Output (AC)							
Rated output power	3000W	3680W	4000W	4600W	5000W	5000W	6000W
Max. apparent power	3300VA	3680VA	4400VA	4600VA	5500VA	5000VA	6000VA
Max. Output current	15A	16A	20A	23A	25A	21.7A	29A
Rated output voltage	L/N/PE, 230Vac						
Output voltage range	180-276Vac						
Rated output frequency	50/60Hz						
Output frequency range	45Hz-55Hz / 55Hz-65Hz						
Active power adjustable range	0-100%						
THDi	< 3%						
Power factor	0.8 leading -0.8 lagging						
Efficiency							
Max. efficiency	98.2%			98.4%			
European efficiency	97.3%			97.5%			
Protection							
DC reverse polarity protection	Yes						
Anti-islanding protection	Yes						
Leakage current protection	Yes						
Ground fault monitoring	Yes						
PV-array string fault monitoring	Yes						
DC switch	Yes						
SPD	PV: Type III, AC: Type III						
General Data							
Ambient temperature range	-30°C ~ +60°C						
Self-consumption at night	< 1 W						
Topology	Transformerless						
Degree of protection	IP65						
Allowable relative humidity range	0-100%						
Max. operating altitude	4000m						
Cooling	Natural						
Dimension (W×H×D)	349×344×164 mm						
Weight	9.2 kg			10 kg			
Display	LCD & Bluetooth + APP						
Communication	RS485/Wi-Fi						
Standard	IEC/EN 61000-6-2/3, IEC/EN 61000-3-2/3, IEC/EN 61000-3-11/12, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC/EN 62109-1/2, VDE-AR-N 4105, VDE V 0126-1-1, C10/11, UNE 217002: 2020, G98/G99, EN 50549-1, ANRE 208						

*All specifications are subject to change without notice.



02 Three-phase Inverter

SOFAR 3.3-12KTLX-G3

3.3 / 4.4 / 5.5 / 6.6 / 8.8 / 10 / 11 / 12 kW

Three-phase string inverter



High yield

- Max. efficiency up to 98.5%
- Maximum DC input voltage 1100V
- Low start-up and wide MPPT voltage range



Smart O&M

- Smart string level monitoring
- Remote upgrade via SofarCloud



Reliable design

- Type II SPD for both DC and AC side
- Natural cooling with fanless, low-noise operation

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Model	SOFAR 3.3KTLX-G3	SOFAR 4.4KTLX-G3	SOFAR 5.5KTLX-G3	SOFAR 6.6KTLX-G3	SOFAR 8.8KTLX-G3	SOFAR 11KTLX-G3	SOFAR 10KTLX-G3-A	SOFAR 12KTLX-G3
Input (DC)								
Max. input voltage	1100V							
Rated input voltage	650V							
Start-up voltage	160V							
MPPT operating voltage range	140-1000V							
Number of MPP trackers	2							
Number of DC inputs	1/1						1/2	
Max. input MPPT current	15A/15A						15A/30A	
Max. input short circuit current	22.5A/22.5A						22.5A/45A	
Output (AC)								
Rated output power	3000W	4000W	5000W	6000W	8000W	10000W	10000W	12000W
Max. apparent power	3300VA	4400VA	5500VA	6600VA	8800VA	11000VA	10000VA	13200VA
Max. output current	5A	6.7A	8.3A	10A	13.3A	16.7A	15.2A	20A
Rated output voltage	3/N/PE, 230/400Vac							
Output voltage range	310-480Vac							
Rated output frequency	50/60Hz							
Output frequency range	45Hz-55Hz / 55Hz-65Hz							
Active power adjustable range	0-100%							
THDi	< 3%							
Power factor	0.8 leading - 0.8 lagging							
Efficiency								
Max. efficiency	98.4%						98.5%	
European efficiency	97.5%						98.0%	
Protection								
DC reverse polarity protection	Yes							
Anti-islanding protection	Yes							
Leakage current protection	Yes							
Ground fault monitoring	Yes							
PV-array string fault monitoring	Yes							
DC switch	Yes							
SPD	PV: type II, AC: type II							
General Data								
Ambient temperature range	-30°C ~ +60°C							
Self-consumption at night	<1W							
Topology	Transformerless							
Degree of protection	IP65							
Allowable relative humidity range	0-100%							
Max. operating altitude	4000m							
Cooling	Natural							
Dimension (W×H×D)	430×385×182 mm							
Weight	17 kg						18 kg	
Display	LCD & Bluetooth +APP							
Communication	RS485/Wi-Fi							
Standard	IEC/EN 61000-6-1/3, IEC/EN 61000-3-2/3, IEC/EN 61000-3-11/12, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC/EN 62109-1/2, G98/G99, VDE-AR-N 4105, VDE V 0126-1-1, EN 50549-1, UNE 217002-2020							

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SOFAR 15-24KTLX-G3

15 / 17 / 20 / 22 / 24 kW

Three-phase string inverter



High yield

- Max. efficiency up to 98.6%
- Maximum DC input voltage 1100 V



Reliable performance

- Low start-up voltage, wide MPPT voltage
- 110% long-time overload ability
- Type II SPD for both DC and AC side



Smart O&M

- Smart string level monitoring
- Remote upgrade via SofarCloud

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Model	SOFAR 15KTLX-G3	SOFAR 17KTLX-G3	SOFAR 20KTLX-G3	SOFAR 22KTLX-G3	SOFAR 24KTLX-G3
Input (DC)					
Max. input voltage	1100V				
Rated input voltage	650V				
Start-up voltage	160V				
MPPT operating voltage range	140-1000V				
Number of MPP trackers	2				
Number of DC inputs	2/2				
Max. input MPPT current	26A/26A				
Max. input short circuit current	36A/36A				
Output (AC)					
Rated output power	15000W	17000W	20000W	22000W	24000W
Max. apparent power	16500VA	18700VA	22000VA	24200VA	26400VA
Max. output current	23.9A	27.1A	31.9A	35.1A	38.3A
Rated output voltage	3/N/PE, 230V/400Vac				
Output voltage range	310-480Vac				
Rated output frequency	50/60Hz				
Output frequency range	45Hz-55Hz / 55Hz-65Hz				
Active power adjustable range	0-100%				
THDi	< 3%				
Power factor	0.8 leading - 0.8 lagging				
Efficiency					
Max. efficiency	98.6%				
European efficiency	98.2%				
Protection					
DC reverse polarity protection	Yes				
Anti-islanding protection	Yes				
Leakage current protection	Yes				
Ground fault monitoring	Yes				
PV-array string fault monitoring	Yes				
DC switch	Yes				
SPD	PV: type II, AC: type II				
General Data					
Ambient temperature range	-30°C ~ +60°C				
Self-consumption at night	< 1W				
Topology	Transformerless				
Degree of protection	IP65				
Allowable relative humidity range	0-100%				
Max. operating altitude	4000m				
Cooling	Smart air cooling				
Dimension (W×H×D)	520×430×198 mm				
Weight	20 kg	22 kg		23 kg	
Display	LCD & Bluetooth +APP				
Communication	RS485/Wi-Fi				
Standard	IEC/EN 61000-6-1/3, IEC/EN 61000-3-11/12, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC/EN 62109-1/2, G99, VDE-AR-N 4105, VDE V 0126-1-1, EN 50549-1, NRS 097-2-1				

*All specifications are subject to change without notice.

SOFAR 15-25KTLX-G3P

15 / 17 / 20 / 23 / 25 kW

Three-phase string inverter



Flexible power adaptation

- Compatible with 182 & 210 high power PV modules
- Low start-up and wide MPPT voltage range



Robust performance

- Prolonged AC overload compatibility (110%)
- Type II SPD for both DC and AC sides



Smart O&M

- Smart string level monitoring
- Remote upgrade via SofarCloud

Model	SOFAR 15KTLX-G3P	SOFAR 17KTLX-G3P	SOFAR 20KTLX2-G3P	SOFAR 23KTLX-G3P	SOFAR 25KTLX-G3P
Input (DC)					
Max. input voltage	1100V				
Rated input voltage	620V				
Start-up voltage	180V				
MPPT operating voltage range	160-1000V				
Number of MPP trackers	2				
Number of DC inputs	1/2		2/2		
Max. input MPPT current	20A/32A		40A/32A		
Max. input short circuit current	25A/40A		50A/40A		
Output (AC)					
Rated output power	15000W	17000W	20000W	23000W	25000W
Max. apparent power	16500VA	18700VA	22000VA	25300VA	27500VA
Max. output current	25.1A	28.5A	33.5A	38.5A	41.8A
Rated output voltage	3/N/PE, 220/380Vac, 230/400Vac, 240/415Vac				
Output voltage range	310-480Vac				
Rated output frequency	50/60Hz				
Output frequency range	45-55Hz / 55-65Hz				
Active power adjustable range	0-100%				
THDi	< 3%				
Power factor	0.8 leading - 0.8 lagging				
Efficiency					
Max. efficiency	≥ 98.6%				
European efficiency	≥ 98.1%				
Protection					
DC reverse polarity protection	Yes				
Anti-islanding protection	Yes				
Leakage current protection	Yes				
Ground fault monitoring	Yes				
PV-array string fault monitoring	Yes				
DC switch	Yes				
AFCI	Yes				
SPD	PV: type II, AC: type II				
General Data					
Ambient temperature range	-30°C ~ +60°C				
Self-consumption at night	< 1 W				
Topology	Transformerless				
Degree of protection	IP66				
Allowable relative humidity range	0-100 %				
Max. operating altitude	4000m (>2000m derating)				
Cooling	Smart air cooling				
Dimension (W×H×D)	491×412×188 mm				
Weight	19 kg	20 kg	20.5 kg		
Display	LCD & Bluetooth +APP				
Communication	RS485 / Wi-Fi				
Standard	IEC/EN 62109-1/2, IEC/EN 61000-6-1/2/3/4, IEC 62116, IEC 61727, IEC 61683, IEC 60068-2-1/2/14/30, VDE-AR-N 4105, VDE V 0126-1-1, EN 50549-1/10				

*All specifications are subject to change without notice.

SOFAR 25-50KTLX-G3

25 / 30 / 33 / 36 / 40 / 45 / 50 kW

Three-phase string inverter



High yield

- Max. efficiency up to 98.80%
- Prolonged AC overload capability (110%)
- Low start-up voltage, wide MPPT voltage range



Wide compatibility

- Up to 4 MPPTs with DC overload capability (up to 150%)
- Compatible with 500Wp+ PV modules



Smart protection

- Type II SPD for both DC and AC side
- I-V curve scanning function

Model	SOFAR 25KTLX-G3	SOFAR 30KTLX-G3	SOFAR 33KTLX-G3	SOFAR 36KTLX-G3	SOFAR 40KTLX-G3	SOFAR 45KTLX-G3	SOFAR 50KTLX-G3
Input (DC)							
Max. input voltage	1100V						
Rated input voltage	620V						
Start-up voltage	200V						
MPPT operating voltage range	180-1000V						
Number of MPP trackers	3				4		
Number of DC inputs	2 for each MPPT						
Max. input MPPT current	3×40A				4×40A		
Max. input short circuit current	3×50A				4×50A		
Output (AC)							
Rated output power	25000W	30000W	33000W	36000W	40000W	45000W	50000W
Max. apparent power	28000VA	34000VA	37000VA	40000VA	44000VA	50000VA	55000VA
Max. output current	42.4A	51.5A	56A	60.6A	66.7A	75.8A	83.3A
Rated output voltage	3/N/PE, 230/400Vac						
Output voltage range	310-480Vac						
Rated output frequency	50/60Hz						
Output frequency range	45Hz-55Hz / 55Hz-65Hz						
Active power adjustable range	0-100%						
THDi	< 3%						
Power factor	0.8 leading - 0.8 lagging						
Efficiency							
Max. efficiency	98.6%				98.8%		
European efficiency	98.2%				98.2%		
Protection							
DC reverse polarity protection	Yes						
Anti-islanding protection	Yes						
Leakage current protection	Yes						
Ground fault monitoring	Yes						
PV-array string fault monitoring	Yes						
DC switch	Yes						
AFCI	Optional						
SPD	PV: type II, AC: type II (standard) PV: type I+II, AC: type II (optional)						
General Data							
Ambient temperature range	-30°C - +60°C						
Self-consumption at night	< 3W						
Topology	Transformerless						
Degree of protection	IP65						
Allowable relative humidity range	0-100%						
Max. operating altitude	4000m						
Cooling	Smart air cooling						
Dimension (W×H×D)	585×480×220 mm						
Weight	36 kg				37 kg		
Display	LCD & Bluetooth + APP						
Communication	RS485/Wi-Fi						
Standard	IEC/EN 61000-6-1/2/3/4, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC/EN 62109-1/2, G99, VDE-AR-N 4105, VDE V 0126-1-1, EN 50549-1, NRS 097-2-1, UNE 217002-2020						

*All specifications are subject to change without notice.

SOFAR 60-80KTLX-G3

60 / 80 kW

Three-phase string inverter



High yield

- Max. efficiency up to 98.7%
- 6 MPPTs, 150% DC overload



Wide compatibility

- Compatible with 500Wp+ PV modules
- Low start-up and wide MPPT voltage range



Reliable performance

- Supports 110% AC overload for long duration
- Type II SPD for both DC and AC side
- I-V curve scanning

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Model	SOFAR 60KTLX-G3	SOFAR 80KTLX-G3
Input (DC)		
Max. input voltage	1100V	
Rated input voltage	620V	
Start-up voltage	200V	
MPPT operating voltage range	180-1000V	
Number of MPP trackers	6	
Number of DC inputs	2 for each MPPT	
Max. input MPPT current	6×32A	6×40A
Max. input short circuit current	6×50A	6×60A
Output (AC)		
Rated output power	60000W	80000W
Max. apparent power	66000VA	88000VA
Max. output current	100A	133.3A
Rated output voltage	3/N/PE, 230/400Vac	
Output voltage range	310Vac-480Vac	
Rated output frequency	50/60Hz	
Output frequency range	45Hz-55Hz / 55Hz-65Hz	
Active power adjustable range	0-100%	
THDi	< 3%	
Power factor	0.8 leading - 0.8 lagging	
Efficiency		
Max. efficiency	98.7%	
European efficiency	98.2%	
Protection		
DC reverse polarity protection	Yes	
Anti-islanding protection	Yes	
Leakage current protection	Yes	
Ground fault monitoring	Yes	
PV-array string fault monitoring	Yes	
DC switch	Yes	
SPD	PV: type II, AC: type II	
General Data		
Ambient temperature range	-30°C ~ +60°C	
Self-consumption at night	< 2W	
Topology	Transformerless	
Degree of protection	IP66	
Allowable relative humidity range	0-100%	
Max. operating altitude	4000m (>3000m derating)	
Cooling	Smart air cooling	
Dimension (W×H×D)	687×561×275 mm	
Weight	50 kg	
Display	LCD & Bluetooth +APP	
Communication	RS485/Wi-Fi	
Standard	IEC/EN 61000-6-2/4, IEC 61000-3-4/5, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC/EN 62109-1/2, G99, VDE-AR-N 4105, VDE V 0126-1-1, EN 50549-1, UNE 217002-2020	

*All specifications are subject to change without notice.

SOFAR 100-125KTLX-G4

100 / 110 / 125 kW

Three-phase string inverter



High yield

- Max. efficiency up to 98.6%
- 10 MPPTs with 150% DC input overload capability



Safety & Protection

- IP66 design for outdoor
- Type II SPD for both DC and AC side



Smart O&M

- I-V curve scanning
- Supports Modbus Communication, external Wi-Fi

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Model	SOFAR 100KTLX-G4	SOFAR 110KTLX-G4	SOFAR 125KTLX-G4	SOFAR 125KTLX-G4-A
Input (DC)				
Max. input voltage	1100V			
Rated input voltage	625V			
Start-up voltage	200V			
MPPT operating voltage range	180-1000V			
Number of MPP trackers	10			
Number of DC inputs	20			
Max. input MPPT current	10×40A			
Max. input short circuit current	10×50A			
Output (AC)				
Rated output power	100kW	100kW	110kW	125kW
Max. apparent power	100kVA@45°C / 90kVA@50°C	110kVA@45°C / 100kVA@50°C	125kVA@45°C / 110kVA@50°C	125kVA@45°C / 110kVA@50°C
Max. output current	152A@380V / 145A@400V / 139.2A@415V	167.2A@380V / 159.5A@400V/ 153.1A@415V	190A@380V / 181.2A@400V / 174A@415V	190A@380V / 181.2A@400V / 174A@415V
Rated output voltage	3/N/PE, 380V / 400V / 415V			
Output voltage range	310-480Vac			
Rated output frequency	50/60Hz			
Output frequency range	45Hz-55Hz / 55Hz-65Hz			
Active power adjustable range	0-100%			
THDi	< 1% (@100%P)			
Power factor	0.8 leading - 0.8 lagging			
Efficiency				
Max. efficiency	98.6%			
European efficiency	98.3%			
Protection				
DC reverse polarity protection	Yes			
Anti-islanding protection	Yes			
Leakage current protection	Yes			
Ground fault monitoring	Yes			
PV-array string fault monitoring	Yes			
DC switch	Yes			
AFCI	Yes			
SPD	PV: Type II, AC: Type II			
General Data				
Ambient temperature range	-30°C ~ +60°C			
Topology	Transformerless			
Degree of protection	IP66			
Allowable relative humidity range	0-100%			
Max. operating altitude	4000m (>3000m derating)			
Cooling	Smart air cooling			
Dimension (W×H×D)	970×695×325mm			
Weight	75 kg			
Display	LCD & Bluetooth +APP			
Communication	RS485 / Wi-Fi			
Standard	EN/IEC 62109-1/2, EN/IEC 61000-6-2/-4, IEC 61000-3-4/-5, EN 50530, EN 50549, IEC62116, IEC 61727, IEC 61683, IEC 60068-2-1/2/14/30, VDE V 0126-1-1, UTE C15-712-1, VDE-AR-N 4105/4110, NTS 631, UNE 217001, UNE 217002, G99, C10/11			

*All specifications are subject to change without notice.

SOFAR 250-350KTLX0

250 / 330 / 350 kW

Three-phase string inverter



High yield

- Max. efficiency up to 99.05%
- High current input, compatible with 700Wp+ PV modules



Low cost

- Supports P BUS communication, reduce investment and installation cost
- Night SVG function, night reactive power support, reduce power station investment



Intelligent O&M

- Smart IV Curve diagnosis
- AC/DC dual power supply redundant design, 24-hour status monitoring



Proven safety

- IP66 & C5 protection design for outdoor, adaptable to different harsh environments
- High-safety intelligent string disconnection and protection system

Model	SOFAR 250KTLX0	SOFAR 330KTLX0	SOFAR 350KTLX0
Input (DC)			
Max. input voltage		1500V	
Rated input voltage		1160V	
Start-up voltage		550V	
MPPT operating voltage range		500-1500V	
Number of MPP trackers	6		8
Number of DC inputs	24		32
Max. input MPPT current	6×60A		8×60A
Max. input short circuit current	6×100A		8×100A
Output (AC)			
Rated output power	250kW	330kW	352kW
Max. apparent power	250kVA	330kVA	352kVA
Max. output current	180.5A	238.2A	254.1A
Rated output voltage		3/PE, 800V	
Output voltage range		640-920V	
Rated output frequency		50/60Hz	
Output frequency range		45-55Hz / 55-65Hz	
Active power adjustable range		0-100%	
THDi		< 3%	
Power factor		0.8 leading - 0.8 lagging	
Efficiency			
Max. efficiency		99.05%	
European efficiency		98.80%	
Protection			
DC reverse polarity protection		Yes	
Anti-islanding protection		Yes	
Leakage current protection		Yes	
Ground fault monitoring		Yes	
PV-array string fault monitoring		Yes	
DC switch		Yes	
SPD		PV: type II, AC: Type II	
General Data			
Ambient temperature range		-30°C - +60°C	
Topology		Transformerless	
Degree of protection		IP66	
Allowable relative humidity range		0-100%	
Max. operating altitude		4000m	
Cooling		Smart air cooling	
Dimension (W×H×D)		1159×828×366 mm	
Weight	< 111 kg		< 113 kg
Display		LED, Bluetooth + APP	
Communication		RS485 / PBUS	
Standard	EN/IEC 62109-1/2, EN/IEC 61000, IEC 62116, IEC 61727, IEC 61683, IEC 60068 2-1/2/14/30, EN 50549, EN 50530, VDE-AR-N 4110/4120, NTS 631, UNE 217002, IEC 62910		

*All specifications are subject to change without notice.



03 Residential Energy Storage System

HYD 5-20KTL-3PH

5 / 6 / 8 / 10 / 15 / 20 kW

Three-phase hybrid inverter



Simplicity

- Light weight and convenient transportation
- LCD and App for easy commissioning



Safety

- IP65 protection rating
- Integrated type II surge protection



Flexibility

- On/off grid seamless switching (10ms)
- Maximum two battery inputs



Robustness

- Max. 150% PV input, and max. 32A per MPPT
- Supports three-phase unbalanced loads

Model	HYD 5KTL-3PH	HYD 6KTL-3PH	HYD 8KTL-3PH	HYD 10KTL-3PH	HYD 10KTL-3PH-A	HYD 15KTL-3PH	HYD 20KTL-3PH
PV Input							
Recommended Max. PV Power	7500Wp	9000Wp	12000Wp	15000Wp	15000Wp	22500Wp	30000Wp
Max. Input Voltage				1000 Vd.c.			
Start-up Voltage				200 Vd.c.			
Rated Input Voltage				600 Vd.c.			
MPPT Operating Voltage Range				180-960 Vd.c.			
Number of MPPT				2			
Max. Number of Input Strings per MPPT	1/1			2/2			
Max. Input Current ^[1]	16/16 A			32/32A			
Max. Isc ^[2]	22.5/22.5 A			45/45 A			
AC Output (Grid)							
Rated Output Power	5 kW	6 kW	8 kW	10 kW	10 kW	15 kW	20 kW
Rated Output Current	7.6/7.2/6.9 A	9.1/8.7/8.3 A	12.1/11.6/11.1 A	15.2/14.5/13.9 A	15.2/14.5/13.9 A	22.7/21.7/20.8 A	30.3/29.0/27.8 A
Rated Output Voltage ^[3]	3N++PE, 380/400/415 V.a.c.						
Rated Output Frequency	50/60 Hz						
Max. Apparent Power	5.5 kW	6.6 kW	8.8 kW	11 kW	10 kW	16.5 kW	22 kW
Max. Output Current	8.3/8.0/7.6 A	10.0/9.6/9.2 A	13.3/12.8/12.2 A	16.7/15.9/15.3 A	15.2/14.5/13.9 A	25.0/23.9/22.9 A	33.3/31.9/30.6 A
THDi	< 3%						
Power Factor Range	0.8 lagging - 0.8 leading						
Battery							
Battery Type ^[4]	Lithium-ion & Lead-acid						
Voltage Range	180-800 Vd.c.						
Number of Battery Input Channels	1			2			
Max. Charging Power	5 kW	6 kW	8 kW	10 kW	10 kW	15 kW	20 kW
Max. Discharging Power	5 kW	6 kW	8 kW	10 kW	10 kW	15 kW	20 kW
Max. Charging Current	25 A	25 A	25 A	25/25 A	25/25 A	25/25 A	25/25 A
Max. Discharging Current	25 A	25 A	25 A	25/25 A	25/25 A	25/25 A	25/25 A
BMS Communication	CAN/RS485						
AC Output(Backup)							
Rated Output Power	5 kW	6 kW	8 kW	10 kW	10 kW	15 kW	20 kW
Rated Output Current	7.6/7.2/6.9 A	9.1/8.7/8.3 A	12.1/11.6/11.1 A	15.2/14.5/13.9 A	15.2/14.5/13.9 A	22.7/21.7/20.8 A	30.3/29.0/27.8 A
Rated Output Voltage ^[3]	3N++PE, 380/400/415 V.a.c.						
Rated Output Frequency	50/60Hz						
Rated Apparent Power	5 kVA	6 kVA	8 kVA	10 kVA	10 kVA	15 kVA	20 kVA
Max. Apparent Power	5.5 kVA	6.6 kVA	8.8 kVA	11 kVA	11 kVA	16.5 kVA	22 kVA
Peak Output Apparent Power	7500VA, 60s	9000VA, 60s	12000VA, 60s	15000VA, 60s	15000VA, 60s	22500VA, 60s	26000VA, 60s
Max. Output Current	8.3/8.0/7.6 A	10.0/9.6/9.2 A	13.3/12.8/12.2 A	16.7/15.9/15.3 A	16.7/15.9/15.3 A	25.0/23.9/22.9 A	33.3/31.9/30.6 A
THDv(@ linear load)	< 3%						
Switching Time	10ms default						
Efficiency							
Max. MPPT Efficiency				99.9%			
Max. Efficiency	98.0%	98.0%	98.0%	98.2%	98.2%	98.2%	98.2%
European Efficiency	97.5%	97.5%	97.5%	97.7%	97.7%	97.7%	97.7%
Max. Efficiency of Charging/Discharging ^[5]	97.6%	97.6%	97.6%	97.8%	97.8%	97.8%	97.8%
Protection							
DC Switch				Yes			
PV Reverse Connection Protection				Yes			
Battery Reverse Connection Protection				Yes			
Output Short Circuit Protection				Yes			
Output Overcurrent Protection				Yes			
Output Overvoltage Protection				Yes			
Insulation Impedance Detection				Yes			
Residual Current Detection				Yes			
Anti-island Protection				Yes			
Surge Protection	PV: Type II, AC: Type II						
General Parameters							
Operating Temperature Range	-30°C ~ +60°C (derating above + 45°C)						
Relative Humidity Range	5%-95%						
Max. Operating Altitude	4000m (derating above 2000m)						
Standby Self-consumption ^[6]	< 25W						
Inverter Topology	Non-Isolation						
Installation Method	Wall Mounted						
IP Rating	IP65						
Dimensions(W×H×D)	587×515×261 mm						
Cooling Mode	Natural			Forced Airflow			
Weight	33 kg			39.5 kg			
Communication	CAN/RS485/Wi-Fi, Optional: 4G/LAN						
Display	LCD & APP						

[1] PV Max. Input Current may change(12.5A to 16A/25A to 32A), please refer to the label on the body. [2] PV Max. Isc may change(15A to 22.5A/30A to 45A), please refer to the label on the body.

[3] AC Output Rated/Max. Output Current corresponds to Rated Output Voltage. 20K model, for example, when the Rated Output Voltage is 400V, the Rated Output Current is 29A, most of the Rated Output Voltage is 415V, the Rated Output Current is 27.8A

[4] Please refer to document "SOFAR inverter Model compatible battery list". [5] Battery-AC maximum efficiency of battery charge and discharge.

[6] Standby loss at rated input voltage. [7] If you choose the Belgian safety code, the Max. Apparent Power of HYD 5- 20KTL-3PH is 10 kVA.

*All specifications are subject to change without notice.

BTS E5-20-DS5

5 / 10 / 15 / 20 kWh

Smart battery



- ▶ SOAFR battery distribution unit
- ▶ SOFAR Battery



User-friendly

- Modular design and stacked installation, plug and play
- Extendable by mixing new and existing batteries
- One-button battery operation



Efficiency

- Extremely low battery self-consumption in sleep mode
- Active battery balancing of 100% SOC in 2 hours
- Store up to 2 years without charging



Safe & Reliable

- IP65 rated design
- 5-layer battery safety protection
- Lithium iron phosphate(LFP) battery

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Model	BTS E5-DS5	BTS E10-DS5	BTS E15-DS5	BTS E20-DS5
System Parameters				
System Schematic				
Battery Type ^[1]	LiFePO ₄ - lithium iron phosphate battery			
Battery Distribution Unit	BTS 5K-BDU			
Number of Battery Distribution Unit	1			
Battery Module	BTS 5K			
Number of Battery Modules	1	2	3	4
Battery Total Energy ^[2]	5.12kWh	10.24kWh	15.36kWh	20.48kWh
Rated Capacity	100Ah	200Ah	300Ah	400Ah
Rated Power	2.5kW	5kW	7.5kW	10kW
Nominal Voltage	400 Vd.c.			
Operating Voltage Range	350-435 Vd.c.			
Max. Charging Current	6A	12A	18A	24A
Max. Discharging Current	7.5A	15A	22.5A	30A
General Parameters				
Display	LED			
Communication	CAN			
Dimensions (W×H×D)	708×680×170mm	708×1100×170mm	708×1520×170mm	708×1940×170mm
Weight	59kg	110kg	161kg	212kg
Enclosure Type	IP65			
Cooling	Natural			
Operating Temperature Range ^[3]	Charge: 0°C ~ +50°C / Discharge: -10°C ~ +50°C			
Humidity	5-95%			
Installation	Floor Stand			
Max. Operating Altitude ^[4]	4000 m			
Battery Module^[5]				
Model	BTS 5K			
Battery Module Energy	5.12kWh			
Nominal Voltage	400 Vd.c.			
Rated Power	2.5kW			
Dimensions(W×H×D)	708×420×170mm			
Weight	50 kg			
Battery Distribution Unit				
Model	BTS 5K-BDU			
Operating Voltage Range	350-435 Vd.c.			
Maximum Current	30 A			
Number of BTS 5K	1-4			
Protective Class	Class I			
Enclosure Type	IP65			
Dimensions(W×H×D)	708×200×170 mm			
Weight	7.5 kg			
Ordering and Deliverable Part				
Product Ordering Model ^[6]	BTS 5K, BTS 5K-BDU			

[1] Rechargeable Li-ion Battery system. [2] Test conditions: 0.2C charging/discharging at 25°C, 100%DOD. [3] Refer to the temperature derating curve.

[4] If the altitude is >2000m, derating operation is required, refer to the derating curve. [5] The internal battery pack is 51.2V, 100Ah.

[6] Storage system is ordered and delivered in the form of power module and battery module separately with corresponding quantity

*All specifications are subject to change without notice.

PowerAll

5 / 6.5 / 8 / 9.9 / 10 / 12 kW
5 / 10 / 15 / 20 / 25 / 30 kWh

Three-phase All-in-one ESS



- ▶ SOFAR Hybrid inverter
- ▶ SOFAR Battery



User-friendly

- Easy installation & extendable capacity
- Natural heat dissipation, no extra noise



Flexible applications

- Supports 100% three-phase unbalanced loads
- Seamless switchover between on and off-grid (10ms)



Safe & Reliable

- Up to 3 MPPTs with AFCI
- IP66 rated design

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System Parameters

System Schematic						
Inverter Module	ESI-5/6.5/8/9.9/10/12K-T1					
Number of Inverter Modules	1					
Battery Module	BTS 5K					
Number of Battery Modules	1	2	3	4	5	6
Battery Total Energy ^[1]	5.12kWh	10.24kWh	15.36kWh	20.48kWh	25.6kWh	30.72kWh
IP Rating	IP65					
Operating Temperature Range ^[2]	Charge: -10°C ~ +50°C / Discharge: -20°C ~ +50°C					
Relative Humidity Range	5%-95%					
Max. Operating Altitude ^[3]	4000 m					
Weight	80kg	130kg	180kg	230kg	280kg	330kg
Dimension (W×H×D) ^[4]	708×920×170mm	708×1340×170mm	708×1760×170mm	708×1340×170mm 708×940×170mm	708×1340×170mm 708×1360×170mm	708×1760×170mm 708×1360×170mm
Base Dimensions (W×H×D)	620×60×170mm (floor installation), 620×310×170mm (wall-mounted installation)					
Display	LCD & APP					
Communication	CAN/RS485/WiFi, Optional: 4G/LAN					
Product Ordering Model	[ESI-5/6.5/8/9.9/10/12K-T1 Inverter Module] + N * [BTS 5K Battery Module]					
Inverter Module	ESI-5K-T1	ESI-6.5K-T1	ESI-8K-T1	ESI-9.9K-T1-A	ESI-10K-T1	ESI-12K-T1
PV Input						
Recommended Max. PV Power	10kWp	13kWp	16kWp	20kWp	20kWp	24kWp
Max. Input Voltage	1000 Vd.c.					
Start-up Voltage ^[5]	200 Vd.c.					
Rated Input Voltage	600 Vd.c.					
MPP Voltage Range	160-950 Vd.c.					
Number of MPPT	3					
Max. Input Current	20/20/20A					
Max. Isc	25/25/25A					
Battery						
Voltage Range	3N--+PE, 380/400/415 V.a.c.					
Max. Charging Current	50/60 Hz					
Max. Discharging Current	15 A	19.5 A	24 A	29.7 A	30 A	30 A
AC Backup						
Rated Output Voltage	3N--+PE, 380/400/415 V.a.c.					
Rated Output Frequency	50/60 Hz					
Rated Output Power	5 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW
Max. Apparent Power	5.5 kVA	7.15 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA
Peak Output Apparent Power ^[6]	2 times of rated power, 10s					
Switching Time	10 ms default					
AC Grid						
Rated Voltage	3(N)--+PE, 380/400/415 V.a.c.					
Rated Frequency	50/60 Hz					
Rated Output Power	6.5 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW
Max. Apparent Power	7.15 kVA	7.15 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA
Max. Output Current	8.3/8.0/7.6 A	10.9/10.3/9.9 A	13.3/12.8/12.2 A	15.0/14.3/13.8 A	16.7/15.9/15.3 A	20.0/19.1/18.3 A
Max. Input Current	15.2/14.5/13.9 A	19.8/18.8/18.1 A	24.2/23.2/22.2 A	30.3/29.0/27.8 A	30.3/29.0/27.8 A	33.3/31.9/30.6 A
Power Factor Range	0.8 lagging - 0.8 leading					
General Parameter						
Dimensions (W×H×D) / Weight	708×440×170mm / 30kg					
Battery Module	BTS 5K					
Battery Type	LiFePO ₄ - lithium iron phosphate battery					
Battery Module Energy ^[1]	5.12 kWh					
Rated Power	2.5 kW					
Topology	Isolation					
Dimensions (W×H×D) / Weight	708×420×170 mm / 50 kg					

[1] Test conditions: 0.2C charging/discharging at 25°C, 100%DOD. [2] Please refer to the temperature derating curve. [3] If the altitude is >2000 m, derating is required. Please refer to the derating curve. [4] Dimensions of the inverter and batteries. [5] Minimum PV voltage to start MPPT operation. [6] Full battery and sun.

*All specifications are subject to change without notice.

[4] Dimensions of the

ESI-5-12K-T1

5 / 6.5 / 8 / 9.9 / 10 / 12 kW

Three-phase hybrid inverter



User-friendly

- Easy installation, supports both all-in-one and split installations
- Natural heat dissipation, no extra noise



Flexible applications

- Supports 100% three-phase unbalanced loads
- Seamless switchover between on and off-grid (10ms)



Safe & Reliable

- Up to 3 MPPTs with AFCI
- IP66 rated design

Inverter Module	ESI-5K-T1	ESI-6.5K-T1	ESI-8K-T1	ESI-9.9K-T1-A	ESI-10K-T1	ESI-12K-T1
PV Input						
Recommended Max. PV Power	10 kWp	13 kWp	16 kWp	20 kWp	20 kWp	24 kWp
Max. Input Voltage	1000 Vd.c.					
Start-up Voltage ^[1]	200 Vd.c.					
Rated Input Voltage	600 Vd.c.					
MPP Voltage Range	160-950 Vd.c.					
Number of MPPT	3					
Max. Number of Input String per MPPT	1/1/1					
Max. Input Current	20/20/20 A					
Max. Isc	25/25/25 A					
Battery						
Voltage Range	350-435 Vd.c.					
Number of Battery Input Channel	1					
Max. Charging Power	10 kW					
Max. Discharging Power	5 kW	6.5 kW	8 kW	9.9 kW	10 kW	10 kW
Max. Charging Current	25 A					
Max. Discharging Current	15 A	19.5 A	24 A	29.7 A	30 A	30 A
Battery Type ^[2]	Lithium-ion					
BMS Communication	CAN					
AC Backup						
Rated Output Voltage	3N--PE, 380/400/415 Va.c.					
Rated Output Frequency	50/60 Hz					
Rated Output Power	5 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW
Rated Output Current	7.6/7.2/6.9 A	9.9/9.4/9.0 A	12.1/11.6/11.1 A	15.0/14.3/13.8 A	15.2/14.5/13.9 A	18.2/17.4/16.7 A
Rated Apparent Power	5 kVA	6.5 kVA	8 kVA	9.9 kVA	10 kVA	12 kVA
Max. Apparent Power	5.5 kVA	7.15 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA
Max. Output Current	8.3/8.0/7.6 A	10.9/10.3/9.9 A	13.3/12.8/12.2 A	15.0/14.3/13.8 A	16.7/15.9/15.3 A	20.0/19.1/18.3 A
Peak Output Apparent Power ^[5]	2 times of rated power, 10s					
THDv(@ linear load)	< 3%					
Switching Time	10 ms default					
Asymmetric load	Yes, Supports 100% three-phase unbalanced load					
AC Grid						
Rated Voltage	3(N)--PE, 380/400/415 Va.c.					
Rated Frequency	50/60 Hz					
Rated Output Power	5 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW
Rated Output Current	7.6/7.2/6.9 A	9.9/9.4/9.0 A	12.1/11.6/11.1 A	15.0/14.3/13.8 A	15.2/14.5/13.9 A	18.2/17.4/16.7 A
Rated Apparent Power	5 kVA	6.5 kVA	8 kVA	9.9 kVA	10 kVA	12 kVA
Max. Apparent Power	5.5 kVA	7.15 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA
Max. Output Current	8.3/8.0/7.6 A	10.9/10.3/9.9 A	13.3/12.8/12.2 A	15.0/14.3/13.8 A	16.7/15.9/15.3 A	20.0/19.1/18.3 A
Max. Input Current	15.2/14.5/13.9 A	19.8/18.8/18.1 A	24.2/23.2/22.2 A	30.3/29.0/27.8 A	30.3/29.0/27.8 A	33.3/31.9/30.6 A
THDi	< 3%					
Power Factor Range	0.8 lagging - 0.8 leading					
Efficiency						
Max. MPPT Efficiency	99.9%					
Max. Efficiency	98.0%	98.0%	98.0%	98.2%	98.2%	98.2%
European Efficiency	97.0%	97.0%	97.0%	97.5%	97.5%	97.5%
Max. Efficiency of Charging/Discharging ^[4]	97.6%	97.6%	97.6%	97.8%	97.8%	97.8%
Protection						
DC Switch	Yes					
PV Reverse Connection Protection	Yes					
Battery Reverse Connection Protection	Yes					
Output Short Circuit Protection	Yes					
Output Overcurrent Protection	Yes					
Output Overvoltage Protection	Yes					
Insulation Impedance Detection	Yes					
Residual Current Detection	Yes					
Anti-island Protection	Yes					
Surge Protection ^[5]	PV: Type II, AC: Type II					
General Parameter						
Inverter Topology	Non-Isolation					
Protective Class	Class I					
IP Rating	IP66					
Overvoltage Category	AC III, DC II					
Operating Temperature Range	-30°C ~ +60°C (derating above + 45°C)					
Relative Humidity Range	5%-95%					
Max. Operating Altitude	4000 m (derating above 2000 m)					
Standby Self-consumption ^[6]	< 10 W					
Installation Method	Wall Mounted					
Dimensions (W×H×D)	708×440×170 mm					
Cooling Mode	Natural					
Weight	30 kg					
Communication	RS485, Optional: WiFi/4G/LAN					
Display	LCD & APP					

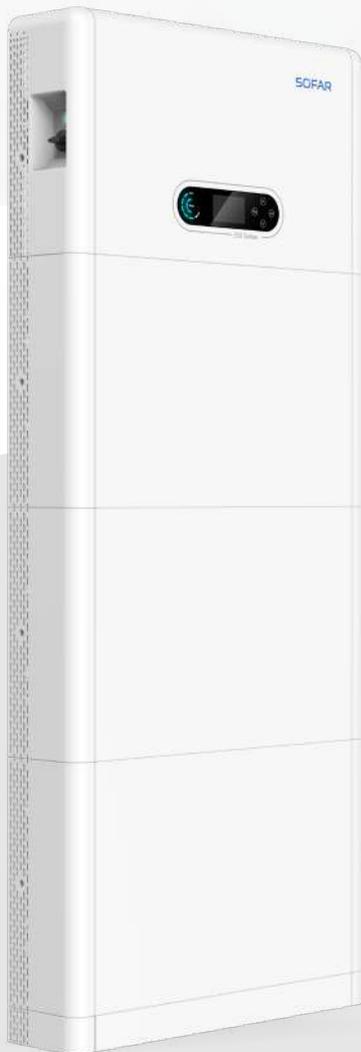
[1] Minimum PV voltage to start MPPT operation. [2] Please refer to document "SOFAR inverter Model compatible battery list". [3] Full battery and sun. [4] Battery-AC maximum efficiency of battery charge and discharge. [5] According to EN/IEC 61643-11. [6] Standby loss at rated input voltage.

*All specifications are subject to change without notice.

PowerAll

3 / 3.68 / 4 / 4.6 / 5 / 6kW
5 / 10 / 15 / 20 / 25 / 30 kWh

Single-phase all-in-one ESS



- ▶ SOFAR Hybrid inverter
- ▶ SOFAR Battery



User-friendly

- One-button battery operation
- Easy installation & extendable capacity
- Extendable by mixing new and existing batteries



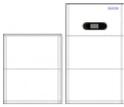
Flexible applications

- Multi-function EMS integrated
- Seamless switchover between on and off-grid (10ms)



Safe & Reliable

- IP65 rated design
- Physically & electrically isolated battery, safer system

Model						
System Parameters						
System Schematic						
Inverter Module	ESI 3/3.68 /4/4.6/5/6K-S1					
Number of Inverter Modules	1					
Battery Module	BTS 5K					
Number of Battery Modules	1	2	3	4	5	6
Battery Total Energy ^[1]	5.12 kWh	10.24 kWh	15.36 kWh	20.48 kWh	25.6 kWh	30.72 kWh
IP Rating	IP65					
Operating Temperature ^[2]	Charge: 0°C ~ +50°C / Discharge: -10°C ~ +50°C					
Allowable Relative Humidity Range	5-95%					
Max. Operating Altitude ^[3]	4000 m					
Weight	74.5 kg	125.5 kg	176.5 kg	228.5 kg	279.5 kg	330.5 kg
Dimension (W×H×D) ^[4]	708×830×170 mm	708×1250×170 mm	708×1670×170 mm	708×1250×170 mm 708×840×170 mm	708×1250×170 mm 708×1260×170 mm	708×1670×170 mm 708×1260×170 mm
Base Dimension (W×H×D)	620×60×170 mm (floor installation), 620×310×170 mm (wall-mounted installation)					
Display	LCD & APP					
Communication	RS485/CAN/Wi-Fi, Optional: Ethernet/4G					
Product Ordering Model	[ESI 3/3.68 /4/4.6/5/6K-S1 Inverter Module] + N * [BTS 5K Battery Module]					
Inverter Module	ESI 3K-S1	ESI 3.68K-S1	ESI 4K-S1	ESI 4.6K-S1	ESI 5K-S1	ESI 6K-S1
PV Input						
Recommended Max. PV Power	4500Wp	5400Wp	6000Wp	6900Wp	7500Wp	9000Wp
Max. Input Voltage	550 Vd.c.					
Start-up Voltage	100 Vd.c.					
Rated Input Voltage	360 Vd.c.					
MPPT Voltage Range	85-520 Vd.c.					
Number of MPPT	2					
Max. Input Current	16/16 A					
Max. Isc	22.5/22.5 A					
Battery						
Rated Voltage Range	350-435 Vd.c.					
Max. Charging/Discharging Current	20 A					
AC Backup						
Rated Output Voltage	L+N+PE, 220/230/240 Va.c.					
Rated Output Frequency	50/60 Hz					
Rated Output Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	6 kW
Max. Apparent Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	6 kVA
Peak Output Apparent Power	4500VA, 60s	5520VA, 60s	6000VA, 60s	6900VA, 60s	7500VA, 60s	9000VA, 60s
Switching Time	10 ms default					
AC Grid						
Rated Voltage	L+N+PE, 220/230/240 Va.c.					
Rated Frequency	50/60 Hz					
Rated Output Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	6 kVA
Max. Apparent Power	3.3 kVA	3.68 kVA	4.4 kVA	4.6 kVA	5.5 kVA	6.6 kVA
Max. Output Current	15.0/14.3/13.8 A	16.7/16.0/15.3 A	20.0/19.1/18.3 A	20.9/20.0/19.2 A	25.0/23.9/22.9 A	30.0/28.7/27.5 A
Max. Input Current	27.3/26.1/25.0 A	33.5/32.0/30.7 A	36.4/34.8/33.3 A	41.8/40.0/38.3 A	45.5/43.5/41.7 A	54.5/52.2/50.0 A
Power Factor Range	0.8 lagging - 0.8 leading					
General Parameter						
Dimensions (W×H×D)/Weight	708×410×170 mm/26 kg					
Battery Module	BTS 5K					
Battery Type	LiFePO ₄ - lithium iron phosphate battery					
Battery Module Energy	5.12 kWh					
Rated Power	2.5 kW					
Topology	Isolation					
Dimensions (W×H×D)/Weight	708×420×170 mm/50 kg					

[1] Test conditions: 0.2C charging/discharging at 25°C, 100%DOD. [2] Please refer to the temperature derating curve. [3] If the altitude is >2000 m, derating is required. Please refer to the derating curve. [4] Dimensions of the inverter and batteries.

*All specifications are subject to change without notice.

ESI 3-6K-S1

3 / 3.68 / 4 / 4.6 / 5 / 6 kW

Single-phase hybrid inverter



User-friendly

- Easy installation, supports both all-in-one and split installations
- Modular and stacking integrated design



Flexible applications

- Multi-function EMS integrated
- Flexible battery capacity expansion
- Seamless switchover between on and off-grid (10ms)



Safe & Reliable

- IP65 rated design
- Max. 150% PV input, and max. 16A per MPPT

Model	ESI 3K-S1	ESI 3.68K-S1	ESI 4K-S1	ESI 4.6K-S1	ESI 5K-S1	ESI 6K-S1
PV Input						
Recommended Max. PV Power	4500Wp	5400Wp	6000Wp	6900Wp	7500Wp	9000Wp
Max. Input Voltage	550 Vd.c.					
Start-up Voltage ^[1]	100 Vd.c.					
Rated Input Voltage	360 Vd.c.					
MPPT Voltage Range	85-520 Vd.c.					
Number of MPPT	2					
Max. Number of Input Strings per MPPT	1/1					
Max. Input Current	16/16 A					
Max. Isc	22.5/22.5 A					
Battery						
Voltage Range	350-435 Vd.c.					
Number of Battery Input Channels	2					
Max. Charging Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	6 kW
Max. Discharging Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	6 kW
Max. Charging Current	20 A					
Max. Discharging Current	20 A					
Battery Type ^[2]	Lithium-ion					
BMS Communication	CAN					
AC Backup						
Rated Output Voltage	L+N+PE, 220/230/240 V.a.c.					
Rated Output Frequency	50/60 Hz					
Rated Output Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	6 kW
Rated Output Current	13.6/13.0/12.5 A	16.7/16.0/15.3 A	18.2/17.4/16.7 A	20.9/20.0/19.2 A	22.7/21.7/20.8 A	27.3/26.1/25.0 A
Rated Apparent Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	6 kVA
Max. Apparent Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	6 kVA
Max. Output Current	13.6/13.0/12.5 A	16.7/16.0/15.3 A	18.2/17.4/16.7 A	20.9/20.0/19.2 A	22.7/21.7/20.8 A	27.3/26.1/25.0 A
Peak Output Apparent Power	4500VA, 60s	5520VA, 60s	6000VA, 60s	6900VA, 60s	7500VA, 60s	9000VA, 60s
THDv(@ linear load)	< 3%					
Switching Time	10 ms default					
AC Grid						
Rated Voltage	L+N+PE, 220/230/240 V.a.c.					
Rated Frequency	50/60 Hz					
Rated Output Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	6 kW
Rated Output Current	13.6/13.0/12.5 A	16.7/16.0/15.3 A	18.2/17.4/16.7 A	20.9/20.0/19.2 A	22.7/21.7/20.8 A	27.3/26.1/25.0 A
Rated Apparent Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	6 kVA
Max. Apparent Power ^[3]	3.3 kVA	3.68 kVA	4.4 kVA	4.6 kVA	5.5 kVA	6.6 kVA
Max. Output Current ^[4]	15.0/14.3/13.8 A	16.7/16.0/15.3 A	20.0/19.1/18.3 A	20.9/20.0/19.2 A	25.0/23.9/22.9 A	30.0/28.7/27.5 A
Max. Input Current	27.3/26.1/25.0 A	33.5/32.0/30.7 A	36.4/34.8/33.3 A	41.8/40.0/38.3 A	45.5/43.5/41.7 A	54.5/52.2/50.0 A
THDi	< 3%					
Power Factor Range	0.8 lagging - 0.8 leading					
Efficiency						
Max. MPPT Efficiency	99.9%					
Max. Efficiency	97.7%	97.7%	97.7%	97.8%	97.8%	97.8%
European Efficiency	97.0%	97.0%	97.0%	97.1%	97.1%	97.1%
Max. Efficiency of Charging/Discharging ^[5]	97%					
Protection						
DC Switch	Yes					
PV Reverse Connection Protection	Yes					
Battery Reverse Connection Protection	Yes					
Output Short Circuit Protection	Yes					
Output Overcurrent Protection	Yes					
Output Overvoltage Protection	Yes					
Insulation Impedance Detection	Yes					
Residual Current Detection	Yes					
Anti-island Protection	Yes					
Surge Protection	PV:Type II, AC:Type II					
Protection						
Inverter Topology	Non-Isolation					
Protective Class	Class I					
IP Rating	IP65					
Overvoltage Category	AC III, DC II					
Operating Temperature Range	-10°C ~ +50°C (derating above + 45°C)					
Relative Humidity Range	5%-95%					
Max. Operating Altitude	4000 m (derating above 2000 m)					
Standby Self-consumption ^[6]	< 10 W					
Dimensions(W*H*D)	708*410*170 mm					
Cooling Mode	Natural					
Weight	26 kg					
Communication	CAN/RS485/Wi-Fi, Optional: 4G/LAN					
Display	LCD & APP					

[1] Minimum PV voltage to start MPPT operation.

[2] Please refer to document "SOFAR inverter Model compatible battery list"

[3] Maximum apparent power of ESI 5K-S1 for Belgian and Australian safety codes is 5 kVA.

[4] Maximum output current of ESI 5K-S1 for Belgian and Australian safety codes is 22.7/21.7/20.8 A.

[5] Battery-AC maximum efficiency of battery charge and discharge

[6] Standby loss at rated input voltage

*All specifications are subject to change without notice.

BT5000A

AC Battery



Simplicity

- Lightweight and integrated design
- AC-coupled design, easy energy storage upgrade with existing solar systems



Flexibility

- Supports 6 units in parallel (Max.30kWh)
- Extendable by mixing new and existing batteries



Safety

- IP66 rated design
- Electrical isolation design, worry-free safety

Model	
Model	BT5000A
AC Grid	
Rated Power	2500W
Rated Apparent Power	2750VA
Rated Output Current	11.4/10.9/10.4A
Max. Output Current	12.5/12/11.5A
Max. Input Current	22.7/21.7/20.8A
Rated AC Voltage	220/230/240V
Grid Voltage Range	176-276V
Rated Grid Frequency	50/60Hz
Grid Frequency Range	45-66Hz
THDI	< 3%
PF	0.8 leading - 0.8 lagging
AC Output (Off Grid)	
Rated Power	2500W
Peak output Power	3500W,10s
Rated Current	11.4/10.9/10.4A
Rated Voltage	220/230/240V
Rated Frequency	50/60Hz
THDV	< 3%
Battery Side	
Battery Type	LiFePO ₄ - lithium iron phosphate battery
Rated Voltage	51.2V
Battery total Energy ^[1]	5.12kWh
Usable capacity ^[2]	4.6kWh
General Parameters	
Operating temperature range ^[3]	-20°C ~ +50°C
Relative humidity range	5%-95% (non-condensing)
Max. operating altitude ^[4]	4000m
Degree of protection	IP66
Display	LCD & APP
Cooling	Natural Cooling
Communication	RS485, optional: Wi-Fi, 4G
Surge Protection	AC: Type III
Dimensions(W×H×D)	400×800×175 mm
Weights(kg)	50kg
Installation method	Wall Mounted or Floor Mounted

*All specifications are subject to change without notice.



04 C&I Energy Storage System

HYD-40-60K-T1

40 / 49.9 / 50 / 60 kW

Three-phase hybrid inverter



Simplicity

- Light weight and convenient transportation
- LCD and App for easy commissioning



Safety

- IP66 protection rating
- DC SPD type I+II, AC SPD type II
- AI based AFCI protection



Flexibility

- Multiple inverters in parallel connection
- Supports intelligent control of non critical loads



Robustness

- Maximum 200% PV input, and 40A per MPPT
- Supports 100% unbalanced loads
- 150% overload capability for 10 seconds
- Integration of generators to extend backup duration

Model	HYD-40K-T1	HYD-49.9K-T1-A	HYD-50K-T1	HYD-60K-T1
PV Input				
Recommended Max. PV Power	80 kWp		100 kWp	120 kWp
Max. Input Voltage			1000 Vd.c	
Start-up Voltage ^[1]			200 Vd.c.	
Rated Input Voltage			600 Vd.c.	
MPP Voltage Range			160-950 Vd.c.	
Number of MPPT			4	
Max. Number of Input Strings per MPPT			2/2/2/2	
Max. Input Current			40/40/40/40 A	
Max. Isc			50/50/50/50 A	
Battery				
Voltage Range			600-1000 Vd.c.	
Number of Battery Input Channels			1	
Max. Charging Power			60 kW	
Max. Discharging Power	40 kW	49.9 kW	50 kW	60 kW
Max. Charging Current			100 A	
Max. Discharging Current	64 A	79.8 A	80 A	100 A
Battery Type ^[2]			Lithium-ion	
BMS Communication			CAN	
AC Backup				
Rated Output Voltage			3N--PE, 380/400/415 Va.c.	
Rated Output Frequency			50/60 Hz	
Rated Output Power	40 kW	49.9 kW	50 kW	60 kW
Rated Output Current	60.8/57.7/55.6 A	75.8/72.0/69.4 A	76.0/72.2/69.6 A	91.2/86.6/83.5 A
Rated Apparent Power	40 kVA	49.9 kVA	50 kVA	60 kVA
Max. Apparent Power	44 kVA	49.9 kVA	55 kVA	66 kVA
Max. Output Current	66.9/63.5/61.2 A	75.8/72.0/69.4 A	83.6/79.4/76.5 A	100/95.3/91.8 A
Peak Output Apparent Power ^[3]			1.5 times of rated power, 10s	
THDv(@ linear load)			< 3%	
Switching Time ^[4]			4 ms	
Asymmetric load			Yes, Supports 100% three-phase unbalanced load	
AC Smartload/Generator				
Rated Output Voltage			3N--PE, 380/400/415 Va.c.	
Rated Output Frequency			50/60 Hz	
Rated Output Power	40 kW	49.9 kW	50 kW	60 kW
Rated Output Current	60.8/57.7/55.6 A	75.8/72.0/69.4 A	76.0/72.2/69.6 A	91.2/86.6/83.5 A
Rated Apparent Power	40 kVA	49.9 kVA	50 kVA	60 kVA
Max. Apparent Power	44 kVA	49.9 kVA	55 kVA	66 kVA
Max. Output Current	66.9/63.5/61.2 A	75.8/72.0/69.4 A	83.6/79.4/76.5 A	100/95.3/91.8 A
AC Grid				
Rated Voltage			3(N)--PE, 380/400/415 Va.c.	
Rated Frequency			50/60 Hz	
Rated Output Power	40 kW	49.9 kW	50 kW	60 kW
Rated Output Current	60.8/57.7/55.6 A	75.8/72.0/69.4 A	76.0/72.2/69.6 A	91.2/86.6/83.5 A
Rated Apparent Power	40 kVA	49.9 kVA	50 kVA	60 kVA
Max. Apparent Power	44 kVA	49.9 kVA	55 kVA	66 kVA
Max. Output Current	66.9/63.5/61.2 A	75.8/72.0/69.4 A	83.6/79.4/76.5 A	100/95.3/91.8 A
Max. Input Current			100 A	
THDi			< 3%	
Power Factor Range			0.8 lagging - 0.8 leading	
Efficiency				
Max. MPPT Efficiency			99.9%	
Max. Efficiency	98.2%	98.2%	98.2%	98.2%
European Efficiency	97.5%	97.5%	97.5%	97.5%
Max. Efficiency of Charging/Discharging ^[5]	98.2%	98.2%	98.2%	98.2%
Protection				
DC Switch			Yes	
PV Reverse Connection Protection			Yes	
Battery Reverse Connection Protection			Yes	
Output Short Circuit Protection			Yes	
Output Overcurrent Protection			Yes	
Output Overvoltage Protection			Yes	
Insulation Impedance Detection			Yes	
Residual Current Detection			Yes	
Anti-island Protection			Yes	
Surge Protection ^[6]			PV: Type I+II, AC: Type II	
General Parameter				
Inverter Topology			Non-Isolation	
Protective Class			Class I	
IP Rating			IP66	
Overvoltage Category			AC III, DC II	
Operating Temperature Range			-30°C ~ +60°C (derating above + 45°C)	
Relative Humidity Range			5%-95%	
Max. Operating Altitude			4000 m (derating above 2000 m)	
Standby Self-consumption ^[7]			< 15 W	
Installation Method			Wall Mounted	
Dimensions (W×H×D)			850×660×305 mm	
Cooling Mode			Intelligent Airflow	
Weight			75 kg	
Communication			RS485, Optional: WiFi/4G/LAN	
Display			LCD & APP	

[1] Minimum PV voltage to start MPPT operation. [2] Please refer to document "SOFAR inverter Model compatible battery list".
[3] Full sun. [4] In the on-grid mode, the nominal power of the hybrid inverter is higher than the total power of the home loads.
[5] Battery-AC maximum efficiency of battery charge and discharge. [6] According to EN/IEC 61643-11. [7] Standby loss at rated input voltage.
*All specifications are subject to change without notice.

SOFAR 80-125KTLX-G4-ESS

80 / 99 / 100 / 110 / 125 kW

Three-phase hybrid inverter



Battery-ready & Load flexibility

- 200A DC-coupled battery port
- 10ms on/off-grid switching with STS
- Supports max. 20kW unbalanced load
- Supports max. 62.5kW in off-grid mode (200% for 2s)



Flexible PV input

- 9 MPPTs, 40A per MPPT
- 150% PV input power max



Advanced safety

- AFCI arc-fault detection
- DC SPD type I+II surge protection



Outdoor ready

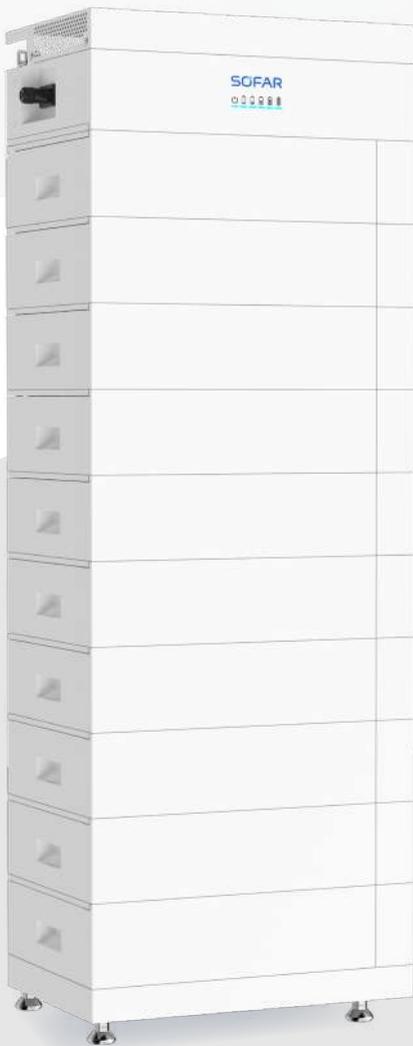
- Engineered with IP66 rating and smart air cooling
- Lightweight for easy transport and installation

Model	SOFAR 80KTLX-G4-ESS	SOFAR 99KTLX-G4-ESS	SOFAR 100KTLX-G4-ESS	SOFAR 110KTLX-G4-ESS	SOFAR 125KTLX-G4-ESS
Input (DC)					
Max. input voltage			1100V		
Rated input voltage			625V		
Start-up voltage			200V		
MPPT operating voltage range			160V-1000V		
Number of MPP trackers			9		
Number for DC inputs			18		
Max. input MPPT current			9×40A		
Max. input short circuit current			9×50A		
Output (AC)					
Rated output power	80kW	99.99kW	100kW	110kW	125kW
Max. output apparent power	88kVA	99.99kVA	110kVA	121kVA	125kVA
Max. output current	133.7A@380V / 127.0A@400V / 122.4A@415V	151.9A@380V / 144.3A@400V / 139.1A@415V	167.1A@380V / 158.7A@400V / 153.0A@415V	183.8A@380V / 174.6A@400V / 168.3A@415V	190A@380V / 181.2A@400V / 174A@415V
Rated output voltage	3N++PE, 380V / 400V / 415V				
Output voltage range	310 - 480Vac				
Rated output frequency	50/60Hz				
Output frequency range	45Hz-55Hz / 55Hz-65Hz				
Active power adjustable range	0-100%				
THDi	<1% (@100%P)				
Power factor	0.8 leading - 0.8 lagging				
Max. asymmetric power	50%				
Output (Off-grid)					
Rated output voltage	3N++PE, 380 / 400 / 415 V.a.c.				
Rated output frequency	50 / 60Hz				
Rated output power	62.5kW				
Rated output current	94.9A				
Peak output apparent power	200%, 2s				
THDv (@ linear load)	3%				
Switching time	<10ms, with STS				
Asymmetric load	100%				
Input (BAT)					
Battery type	Lithium-ion				
Numbers of battery	1-4				
Numers of packs per battery	4-15				
DC voltage range	600-1000V				
Max. charge power	125kW				
Max. discharge power	88kW	99.99kW	110kW	121kW	125kW
Max. charge current	200A				
Max. discharge current	140.8A	160A	176A	193.6A	200A
BMS communication	RJ45, CAN*2 + DO*1				
Efficiency					
Max. efficiency	98.6%				
European efficiency	98.3%				
Protection					
DC reverse polarity protection	Yes				
Anti-islanding protection	Yes				
Leakage current protection	Yes				
Ground fault monitoring	Yes				
PV-array string fault monitoring	Yes				
DC switch	Yes				
PID recovery	Yes				
AFCI	Yes				
SPD	PV: type I+II, AC: type II				
General Data					
Ambient temperature range	-30°C ~+ 60°C				
Topology	Transformerless				
Degree of protection	IP66				
Allowable relative humidity range	0-100%				
Max. operating altitude	4000m (>3000m derating)				
Weight	80kg				
Cooling	Smart air cooling				
Dimension (W×H×D)	985×710×321mm				
Display	LCD & Bluetooth+APP				
Communication	Ethernet / RS485 / Wi-Fi				
STS communication	RS485, DIO *2				
Standard	EN/IEC 62109-1/2, EN/IEC 61000-6-2/-4, IEC 61000-3-11/-12, EN 50530, EN 50549, VDE-AR-N 4105/4110, C10/11				

CBS5000-H4-H-H12-H

20/25/30/35/40/45/50/55/60 kWh

Smart battery



- ▶ SOFAR Battery control unit
- ▶ SOFAR Battery



Safe & Reliable

- IP66 protect rating
- All-weather performance from -20°C to +50°C, perfect for outdoor installation



Flexible capacity

- Modular design, scalable 4-12 packs per series
- Up to 4 racks in parallel (Max. 240kWh)



High power

- Integrated built-in optimizer, one cluster on management
- Active module balancing



Easy installation

- Stack design
- No cable connections required between module

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Model	CBS5000-H4-H	CBS5000-H5-H	CBS5000-H6-H	CBS5000-H7-H	CBS5000-H8-H	CBS5000-H9-H	CBS5000-H10-H	CBS5000-H11-H	CBS5000-H12-H
System Parameters									
System Schematic									
Battery Distribution Unit	CBS5000-BCU								
Number of Battery Distribution Unit	1								
Battery Module	CBS5000-BMU-H								
Number of Battery Modules	4	5	6	7	8	9	10	11	12
Battery Total Energy ^[1]	20.48 kWh	25.6 kWh	30.72 kWh	35.84 kWh	40.96 kWh	46.08 kWh	51.2 kWh	56.32 kWh	61.44 kWh
Rated Power	10 kW	12.5 kW	15 kW	17.5 kW	20 kW	22.5 kW	25 kW	27.5 kW	30 kW
Peak Output Power	20 kW, 10s	25 kW, 10s	30 kW, 10s	35 kW, 10s	40 kW, 10s	45 kW, 10s	50 kW, 10s	55 kW, 10s	60 kW, 10s
Nominal Voltage	600 Vd.c								
Operating Voltage Range	600-1000 Vd.c								
Max. Charging Current	50A								
Max. Discharging Current	50A								
General Parameters									
Display	LED								
Communication	CAN								
Dimensions (W×H×D)	625×870×415 mm	625×1020×415 mm	625×1170×415 mm	625×1320×415 mm	625×1470×415 mm	625×1620×415 mm	625×1770×415 mm	625×1920×415 mm	625×2070×415 mm
Weight	210kg	257kg	304kg	351kg	398kg	445kg	492kg	539kg	586kg
IP Rating	IP66								
Cooling Mode	Intelligent Airflow								
Operating Temperature Range ^[2]	-20°C ~ +50°C								
Humidity	5%-95%								
Installation	Floor Mounted								
Battery Type	LiFePO ₄ - lithium iron phosphate battery								
Max. Operating Altitude ^[3]	4000m								
Scalability	Max. 4 systems in parallel operation								
Ordering and Deliverable Part									
Available for ordering ^[4]	CBS5000-BMU-H, CBS5000-BCU								

[1] Test conditions: 0.2C charging/discharging at 25°C, 100%DOD.

[2] Refer to the curve of temperature VS charging/discharging current.

[3] Derating above 2000m.

[4] Storage system is ordered and delivered in the form of power module and battery module separately with corresponding quantity.

*All specifications are subject to change without notice.

CBS8000-64-96KWH

64 / 80 / 96 KWH

Smart battery cabinet



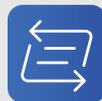
Simplicity

- Pre-installed in factory for easy installation on site
- Effortless operation, cloud control



Safety

- IP55 protect rating and C4 corrosion resistance
- Double fire suppression system design



Flexibility

- Single cabinet capacity of 64/80/96kWh
- Up to 4 cabinet in parallel (Max. 384kWh)



Robustness

- Max. 46.08kW charging/discharging power
- Active balancing for each battery module

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Model	CBS8000-64KWH	CBS8000-80KWH	CBS8000-96KWH
Battery			
Battery Type ^[1]	LiFePO ₄		
Rated Capacity	314 Ah		
Max. Charging Current	150 A		
Max. Discharging Current	200 A		
Pack Configuration	1P16S		
Nominal Voltage	600 Vd.c		
Pack Quantity	4 Pack/Cluster	5 Pack/Cluster	6 Pack/Cluster
Battery Total Energy ^[2]	64.31 kWh	80.38 kWh	96.46 kWh
Rated Power	30.72 kW	38.40 kW	46.08 kW
System			
Protective Class	Class I		
IP Rating	IP55		
Anti-Corrosion Grade	C4		
Operating Temperature Range ^[3]	-20°C ~ +50°C (Derating above 45°C)		
Relative Humidity Range	5%-95%		
Max. Operating Altitude ^[4]	3000m		
Installation	Floor Mounted		
Communication	CAN		
Cooling Mode	Intelligent Airflow		
Air Conditioner Power	1.5kW (Cooling), 1kW (Heating)		
Noise	65 dB (Typical)		
Fire Protection	Aerogel (Optional Perfluorohexanone)		
Dimensions (W×H×D)	750×2100×1150 mm (±20mm)		
Weight	1000±100 kg	1120±100 kg	1240±100 kg

[1] Rechargeable Li-ion Battery system.

[2] Test conditions: 0.2C charging/discharging at 25°C, 100%DOD.

[3] Refer to the temperature derating curve and the battery needs to enable heating function if it needs to be charge when temperature is below 0°C.

[4] If the altitude is >2000m, derating operation is required, refer to the derating curve.

*All specifications are subject to change without notice.



05 Smart Energy

LSW-3 / WF-BLE / LSE-3

Stick logger



Intelligent operation

- User-friendly App platform to monitor yield performance any time, anywhere
- Automatic time synchronisation, remote upgrading of equipment



Simple

- Plug-and-play for easy installation, no external power supply needed
- External light indicator, logging status at a glance



Safety & Reliable

- IP65 design, adaptable to bad weather condition
- Independent from inverter to protect parts inside the inverter and eliminate potential problems

Model	LSW-3	WF-BLE	LSE-3
Electrical Parameters			
Operating voltage	DC 5V		
Working power	1.5W	4W	1W
Indicator	LED ×3	LED ×4	LED ×3
Communication Parameter			
Remote data interface	Wi-Fi		LAN
Flash memory	8MB		2MB
Max. inverters supported	1		1
Software Parameter			
Serial communication rate	Default 9600bps (1200-115200bps adjustable)	Default 115200bps (9600/115200bps adjustable)	Default 9600bps (1200-57600bps adjustable)
Data acquisition interval	Default 5min (1-15min optional)	Default 5min(1-5min optional)	Default 5min (1-15min optional)
User configuration	AT+ instruction set	Remote server	AT+ instruction set
	Remote server		Remote server
Firmware upgrade	Remote web		
Environmental Parameter			
Operating temperature range	-30°C ~ +70°C	-40°C ~ +85°C	-30°C ~ +70°C
Relative humidity range	10%-90% (non-condensing)		
Protection grade	IP65		
Other			
Function	Real-time control, Data resume		

*All specifications are subject to change without notice.

SEM5000

Smart energy manager



Flexible

- Unified & visible management of inverters, batteries, chargers, heat-pump and appliances
- Supports multiple energy mode: feed-in limitation, self-consumption, peak shaving, time-of-use, feed-in priority



Intelligent

- Forecast of energy production and consumption
- AI intelligent scheduling



User-friendly

- Built-in meter, easy to install and commission

SEM5000	
Model	SEM5000
General Data	
Dimension (W×H×D)	108×100×65 mm
Mounting type	DIN35 Rail
Height requirement of cabinet	≥ 47.5 mm
Weight	0.5 kg
Power Supply	
AC	1P2W: 100 ~ 240V, 50 / 60Hz 3P3W: 346 ~ 415V, 50 / 60Hz 3P4W: 346 ~ 415V, 50 / 60Hz
Typical power consumption	4W
Interface	
Power output	9.5-13.2V @ 100mA, ≤ 3m
Ethernet	RJ45 ×2, 10M / 100Mbps, ≤ 100m
WLAN	AP+STA, 802.11b/g/n (2.412GHz ~ 2.484GHz)
RS485	×3, 9600 / 19200 / 115200bps, ≤ 200m
DRM	RJ45 ×1
Digital Signal Output	×2, Dry Contact, ≤ 20m
Digital Signal Input	×2, Dry Contact, ≤ 20m
Interaction	
LED	LED ×3 RUN, ALM, COM
Button	RST
APP	SofarCloud
Measurement Range	
Current range	Direct connection: ≤ 63A, external CT ^[1] : > 63A
Voltage range	1P (L-N): 85-277 Vac; 3P (L L): 148-479 Vac
Energy accuracy	±1%
Environment	
Operating temperature range	-30°C ~ +65°C
Storage temperature range	-40°C ~ +85°C
Relative humidity range	5% ~ 95% RH (non condensing)
Max. operating altitude	4000m (derating over 2000m)
Degree of protection	IP2X
Compatible Device	
Inverter	ESI-5-12K-T1 / HYD 5-20K-3PH, up to 6
EV charger	EV11K-AC-02, up to 2
Heat pump	SG-ready, up to 1 ^[2]
Shelly device	Shelly Plus Plug S, Shelly Plus 2PM, Shelly Pro 2PM, up to 20

[1] The secondary current of an external CT connected shall be 50 mA, and the cable length can be up to 30 m.
[2] A heat pump can be directly connected to SEM5000. More appliances can be connected through a Shelly device.

*All specifications are subject to change without notice.

CH1000

Control Hub



Multi-platform monitoring

- Supports monitoring via cloud or mobile App
- Devices include inverter, battery, energy meter, EV charger, heat pump



Integrated energy management

- Built-in EMS function including self-consumption, time-of-use mode, scheduled charging and discharging, VPP access



Fast & Safe control

- Emergency power off, millisecond power controlling

Model	CH1000
Communication to Inverter	
Max. number of connected devices	60pcs
To inverter	RS485
Power Supply (Adapter)	
Type	External Adapter
Adapter input voltage/frequency	100 to 240 V AC / 50 or 60 Hz
Adapter output voltage/current	12V/2A
Power consumption	Typical. 5.0W
Internet Connection Options	
Wi-Fi	2.4G, 802.11b/g/n
Mobile	Optional, LTE CAT.4
Ethernet	RJ45 × 2, 10M/100Mbps
Other Interface	
RS485	COM × 3, Modbus-RTU
DRM	RJ45 × 1, DRM0/5/6/7/8
Analog Signal Input	×4, 4-20mA
Digital Signal Output	× 2, Dry Contact
Digital Signal Input	× 4, Dry Contact
Interaction	
LED	LED ×3
APP	SofarCloud
Mechanical Data	
Operating temperature range	-30°C - +65°C
Environmental rating	IP20
Dimensions (L×W×H)	217×125×34 mm
Weight	0.5 kg
Altitude	3000 m
Installation method	Wall mounting / Desktop mounting / DIN rail
Compliance	
Certificates	IEC61000-6-1/2/3/4, CE-RED, RoHS
Inverter Compatibility	
Inverter model	SOFAR 3.3-12KTLX-G3 / 15-24KTLX-G3 / 15-25KTLX-G3P / 25-50KTLX-G3 / 60-80KTLX-G3 / 100-125KTLX-G4 / 250-255KTL-HV / 250-350KTLX0

*All specifications are subject to change without notice.

PSC300

SOFAR Communication manager



Flexible networking

- RS485, PBUS, Ethernet, and optical fibre networking
- Supports up to 60 inverters
- Supports dual-split, two-winding transformers
- Can connect to various environmental detectors, energy meters, box-type transformer monitoring and control devices



Safe & Reliable

- Built-in Surge protectors
- IP66 protection for long-term stable outdoor operation



Anti-PID function

- Compensation can be performed simultaneously on the photovoltaic modules of connected inverters
- The PID module can achieve N/PE compensation based on the status of the inverter



Intelligent maintenance

- Supports remote/local firmware upgrades
- Remote scheduling with active and reactive power dispatch
- Local web-based configuration

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PSC300	
Model	PSC300
General Parameters	
Auxiliary power input	Voltage range: 100Vac-240Vac; Frequency range: 50-60Hz
Communication mode	With inverters: PBUS/RS485
	With monitoring platforms: SFP/ETH
Max. number of connected devices	RS485: 60pcs, PBUS: 60pcs
Max. transmission distance	RS485:1000m, PBUS:1000m
PBUS (communication) voltage input	Voltage range: 320Vac-920Vac; Frequency range: 50-60Hz
Anti-PID function input	Single phase AC input voltage: 220/230/240Vac, 50/60Hz; Single phase AC rated input voltage: 220Vac, 50/60Hz.
	Three phase AC output voltage: 380/400/415/440/480/800 Vac Three phase AC rated output voltage: 800 Vac
	DC output voltage: 250-500Vdc (AC voltage: 380/400/415/440/480 Vac) 500-800Vdc (AC voltage: 800 Vac)
Fiber-optic	Max. transmission distance: 20km
	Interface method: LC
Protocol supported	MODBUS-TCP/IEC103/IEC104/IEC61850
Environmental Parameters	
Operating temperature	-30°C ~ +60°C
Storage and transport temperature	-40°C ~ +85°C
Operating altitude	< 4000m
Protection level	IP66
Relative humidity	< 95%, Non-condensing
Surge Protection	AC Type II
Mechanical Parameter	
Cooling methods	Natural cooling
Dimensions (W×H×D)	660×776×265 mm
Weight	≤ 35 kg
Compliance	
Certificates	IEC 62109-1/2, IEC 61000-6-2/4, IEC 60529
Other	
Installation mode	Wall mounting / Flat mounting

*PSC300*Including PSC300.PSC300A.
All specifications are subject to change without notice.

EV11k-AC-02

Wallbox



User-Friendly

- Flexible start mode, supports RFID card, user-friendly design
- Compact shape, supports wall-mount, easy to install



Intelligent

- Intelligent monitoring by APP, supports scheduled charging, ability to control remotely



Safe & Reliable

- IP65 Certified, UV resistant
- Multiple functions for electrical protection, Type-A+ 6mA DC leakage detection

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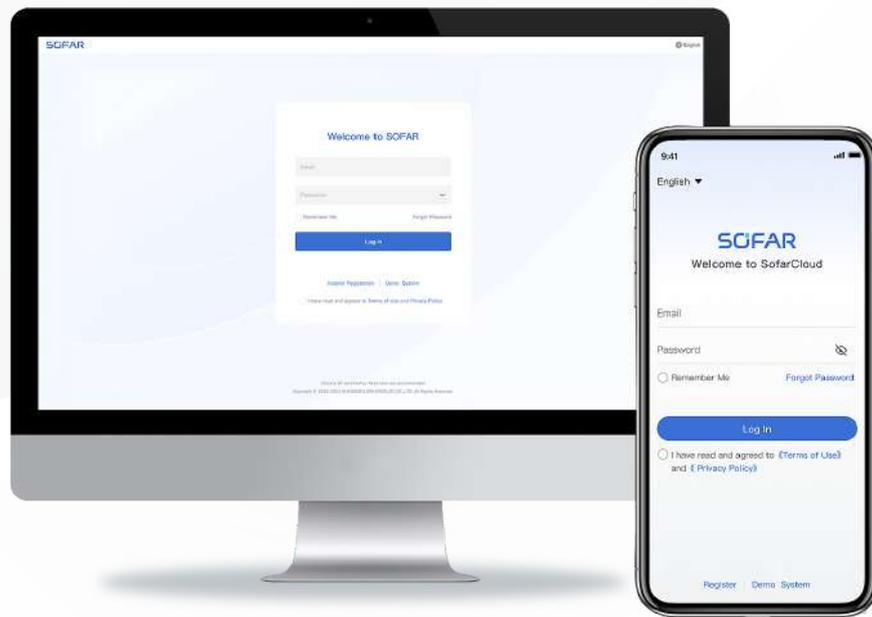
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Model	
Model	EV11k-AC-02
AC Input & Output	
Nominal Charging Power	11 kW
Nominal Output Voltage	3P/N/PE 220-240/380-415 V _{a.c}
Max. Output Current	16 A
Nominal AC Frequency	50/60 Hz
Vehicle Connection	Type 2 Cable
Charging Cable Length	7 m
User Interface & Communication	
Protocol	OCPP 1.6 JSON
Communication	RS485 / Wi-Fi / BLE. Optional:Ethernet / 4G
Display	LED indicator / APP
Metering	Integrated metering IC
Protection	
Residual Current Protection	TypeA+6mA DC detection
Over / Under Voltage Protection	Supported
Overload Protection	Supported
Over / Under Frequency Protection	Supported
Over Temperature Protection	Supported
Surge Protection	Supported
Grounding System	TT / TN
General Data	
Dimensions(H / W / D)	344×192×100 mm
Weight	4.2kg
Operating Temperature Range	-30°C - +50°C
Ambient Humidity	5%-95%
Working Altitude	< 2000m
Cooling Mode	Natural
Ingress Protection	IP65
Installation method	Wall-mounted
Standard Compliance	
Standard	EN IEC 61851-1,IEC62955,IEC 61851-21-2,EN IEC 61000-6-1, EN 61000-6-3,EN 300 328 V2.2.2,EN 300 330 V2.1.1,EN 62311, EN 301 489-1 V2.2.3,EN 301 489-3 V2.1.1,EN 301 489-17 V3.2.0

*All specifications are subject to change without notice.

SofarCloud

System monitoring



Diverse scenarios

- Integrated management of various SOFAR devices
- Adaptive display of system energy flows
- Remote real-time control of system and devices



Safe & Efficient

- Mobile O&M, local device control via Bluetooth
- One-click device upgrade reduces maintenance time
- Minute monitoring and alarming plus professional online helpfunction, supports to eliminate errors faster



User-friendly

- 3 steps system setup, plug-and-play device installation
- Hierarchical permission control, secure user data management
- Operating parameters can be easily adjusted to local requirements

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Product Parameter	SofarCloud
Supported Devices	
Device type	Inverter, Battery, Wallbox, Electricity meter, MVS, Environmental monitoring device and other devices in the plant
Acquisition Environment	
Acquisition devices	Stick logger, CH1000, Communication box and other acquisition devices
Acquisition interval	1-5 minutes
Acquisition methods	4G, WLAN, Ethernet
Client Environment	
Lowest browser version	Chrome 87, Edge 88, Safari 14, Firefox 78
Lowest system version	Android 8.0, iOS 12.4
Browser resolution	1440×900, 1920×1080 (recommended)
Mobile device resolution	Supported all major resolutions
Languages	Multilingual
System Parameter	
Years of data retention	Can be customised according to requirements

Support SOFAR'S products



Inverter



Battery



Wallbox

Support third-party products



Meter



Environmental monitor devices



Heater



Generator



Temperature and humidity sensors

Functions		Web	APP
Demo System	Experience Power Station	●	●
Home	Data Board	●	●
	Alarm	●	●
Plant	Plant List	●	●
	Plant Detail	●	●
	Create Plant	●	●
Device	Device List	●	●
	Device Detail	●	●
	Remote Upgrade	●	●
	Remote Setting	●	●
Maintenance	Account Management	●	—
	Device Management	●	—
	Local O&M	—	●

*All specifications are subject to change without notice.





06 C&I ESS PowerMagic

ESS-261KLC-SA1

Energy storage cabinet



Efficient & Flexible

- PCS supports both on-grid and off-grid applications
- Multiple cabinets can be connected in parallel to support large capacity application



Safety & Friendly

- Battery uses liquid cooling and PTC heating, adaptable to various harsh environments
- Noise level less than 70dB(A), environmental friendly
- Intrinsic & Active & Passive ultimate safety design



Smart management

- Built-in EMS, supports demand management, PV fusion, micro grid, etc.

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Model	
ESS-261KLC-SA1	
DC Side	
Battery Type	LFP/314Ah
Series and Parallel Mode	1P260S
Rated Energy	261 kWh
Nominal Voltage	832V
DC Operating Voltage Range	650V-949V
Depth of Discharge (DOD)	98%
AC Side	
Type	3P4W
AC Voltage	400V AC
Rated AC Power	125 kW
Maximum AC Power	138 kW
Rated Grid Frequency	50Hz/60Hz
Power Factor	-1~1
Unbalanced Load	0-100%
System Parameters	
Cycle Performance	≥8000 @ 70% SOH
Round Trip Efficiency (RTE)	88%@0.5P, 90%@0.25P
Operating Ambient Temperature	-30°C-50°C (derating above 45°C)
Storage Ambient Temperature	-30°C-60°C
Operating Relative Humidity	0-100% (No Condensation)
Operating Altitude	≤ 4000m
Ingress Protection Rating	IP55
Anti-Corrosion	C4-M (C5-M Optional)
Cooling Type	Liquid Cooling
Fire Detection	Smoke, Temperature, CO
Fire Suppression	Three Level Fire Suppression Cell & Pack Space Level: Perfluorohexanone Spray (Optional) Battery Room Level: Aerosol/Perfluorohexanone Spray (Optional) Whole Cabinet Level: Water Spray
Explosion Protection	Two Level Explosion Suppression Directional Smoke Extraction Explosion Venting Panel
Installation	Ground Mounting
Communication	Modbus TCP
Dimension (W×D×H)	1000×1350×2500mm
Weight	< 2400kg
Noise	≤ 70dB(A)
Standard	IEC62619, IEC62477-1, IEC/EN 61000-6-2/4, EN50549-1, UN38.3, UN3480

*All specifications are subject to change without notice.

EBI99-125K-R-G2

PCS



High yield

- Advanced three-level topology, max. efficiency 98.8%
- Smart air cooling design, no derating up to 50°C
- BPU and BCU integrated to save system cost
- 3P4W output in off-grid mode, supports single phase load w/o isolation transformer



Grid support

- Supports active and reactive power response with four-quadrant operation
- Power response time less than 30ms
- HVRT/LVRT to support the grid



Flexible & Reliable

- IP66 protection degree, suitable for outdoor installation
- With intelligent control algorithm, supports parallel operation and flexible capacity

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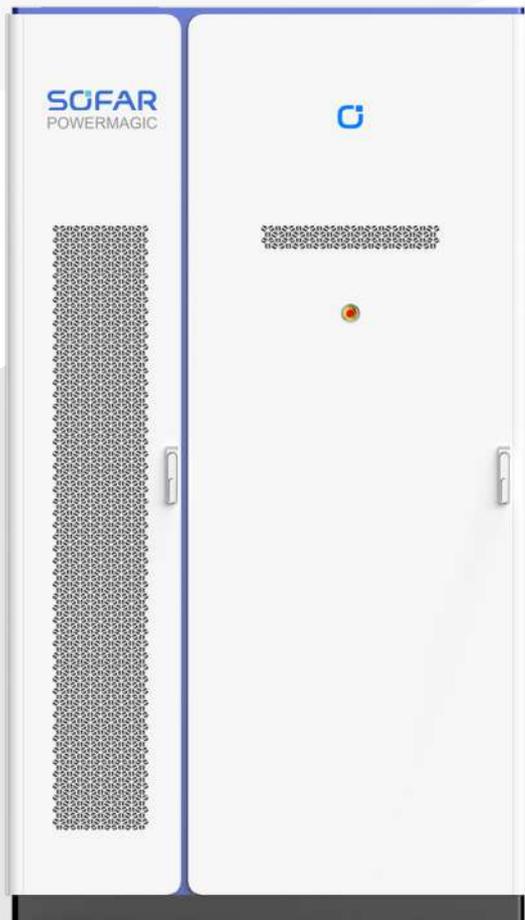
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Model	EBI125K-R-G2	EBI99K-R-G2
DC Side		
Maximum DC Voltage	950V	
DC Voltage Working Range	600-950V	
DC Voltage Full-Power Working Range	650-950V	620-950V
Maximum DC current	217A	166A
BPU Integration (W/ BPU)	BCU, DC load switch, DC relays, Hall sensors integrated	
AC Side (Grid-tied)		
Rated AC Active Power	125 kW	99 kW
Maximum AC Active Power	138 kW	99.99 kW
Maximum AC Apparent Power	138 kVA	99.99 kVA
Rated AC Current	180A	143A
Maximum AC Current	198A	144A
Rated Grid Voltage	230/400V, 3P+N	
Grid Voltage Range	323-460V	
Rated Grid Frequency	50/60Hz	
Grid Frequency Range	45-55Hz/55-65Hz	
Power Factor	-1-1, adjustable	
THDi	<1.5% @Rated Power	
AC Side (Off-grid)		
Rated Output Power	125 kVA	99 kVA
Maximum Output Power	138 kVA	99.99 kVA
Rated Output Current	180A	143A
Maximum Output Current	198A	144A
Rated Output Voltage	230/400 V, 3P+N	
Rated Output Frequency	50/60 Hz	
Unbalanced Load Capability	100% unbalanced load	
THDv	< 1.5% (linear balance load)	
AC Voltage DC Component	< 0.5% Un (Linear balance load)	
Power Factor	0.8-1, leading or lagging	
Overload Capacity	120%, 1 min; 150%, 10s, 160%, 2s @35°C	
System Characteristics		
Working Temperature	-35°C-60°C, > 50°C derating	
Relative Humidity	0-100%, no condensation	
Noise Level	< 68dB @1m, 25°C, full-power	
SPD	DC: type II, AC: type II	
Maximum Working Altitude	4000m, > 2000m derating	
Cooling Method	Smart forced air cooling	
Communication Port	CAN, RS485, Ethernet	
Ingress Protection	IP66	
General Data		
Dimensions (W×H×D)	740×265×850 mm (without terminals and switch handle)	
Weight	< 98kg	

*All specifications are subject to change without notice.

ESS-215-258KLA-SA1

Energy storage cabinet



Efficient & Flexible

- Modular design, flexible expansion
- Intelligent liquid cooling control, reducing auxiliary power loss
- Low-noise operation



Safety & Friendly

- Electrical cables and liquid pipes separated design
- Cell-level / PACK-level / cabin-level fire extinguishing
- Front exhaust, top explosion venting
- IP55 protection, C4 corrosion resistance, strong environmental adaptability



Smart management

- Integrated EMS functions: anti-backflow, parallel power distribution, demand management, peak shaving and valley filling, self-consumption
- Supports remote operation and maintenance

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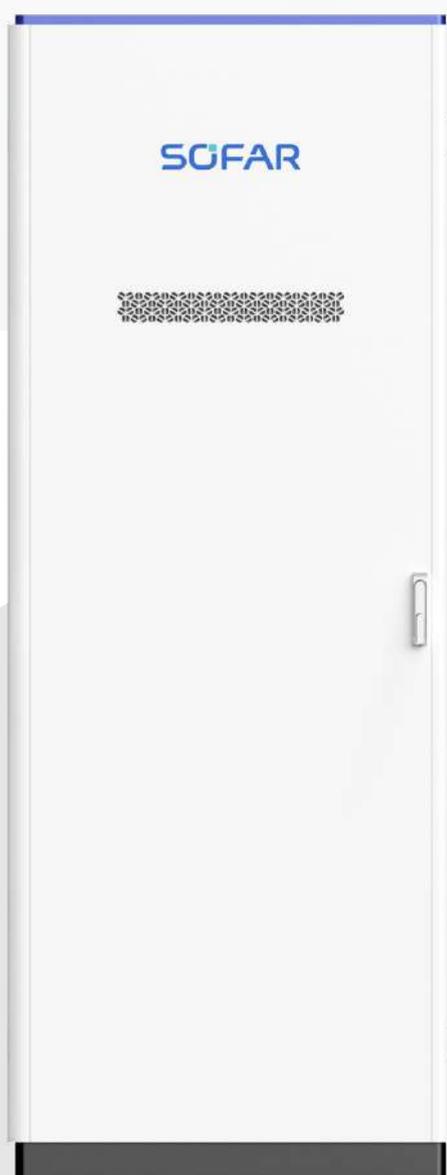
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Model	ESS-258KLA-SA1	ESS-215KLA-SA1
DC Side		
Battery Type	LFP/280Ah	
Rated Energy	258 kWh (6Pack)	215 kWh (5Pack)
Rated Voltage	921.6V	768V
DC Operating Voltage Range	734.4V - 1036.8V DC	612 V - 864V DC
Recommend DC Voltage Range	777.6V - 1022.4V DC	648 V - 852V DC
AC Side		
AC Voltage	400V AC	
Rated Power	125 kW	
Maximum AC Power	138 kW	
Maximum AC Current	198A	
Rated Grid Frequency	50Hz/60Hz	
Power Factor	-1~1	
System Parameters		
Operating Ambient Temperature	-30°C~50°C (Derating above 45°C)	
Storage Ambient Temperature	-30°C~60°C	
Operating Relative Humidity	0~100% (No condensation)	
Cooling Type	Liquid cooling	
Fire Suppression	1. Battery cell level (perfluorohexanone) 2. Canibet level (perfluorohexanone or aerosol) 3. Water fire suppression	
System Configuration	AC side: Maximum 6 Energy storage cabinets in parallel DC side: Maximum 3 Battery cabinets per Energy storage cabinet	
Grid-On/Off	Auto-switch (With backup cabinet)	
Cabinet Connection	Plug-in connector	
Dimension (W×D×H)	1450×1350×2200 mm	
Weight	< 2.8T	< 2.5T
Ingress Protection Rating	IP55	
Anti-corrosion	C4 (C5 optional)	
Operating Altitude	≤ 4000m (Derating above 2000m)	
Noise Level	≤ 60dB	
Installation	Ground mounting	
Communication interface	Ethernet, Dry connect	
Standard	IEC/EN 61000-6-2/4, IEC62477-1, IEC62619, UN38.3, UL9540A, UL1973	

*All specifications are subject to change without notice.

ESS-215-258KLA-BD1

Battery cabinet



Efficient & Flexible

- Modular design, flexible expansion
- Intelligent liquid cooling control, reducing auxiliary power loss
- Low-noise operation



Safety & Friendly

- Electrical cables and liquid pipes separated design
- Cell-level / PACK-level / cabin-level fire extinguishing
- Front exhaust, top explosion venting
- IP55 protection, C4 corrosion resistance, strong environmental adaptability



Smart management

- Integrated EMS functions: anti-backflow, parallel power distribution, demand management, peak shaving and valley filling, self-consumption
- Supports remote operation and maintenance

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Model	ESS-258KLA-BD1	ESS-215KLA-BD1
Battery Type	LFP/280Ah	
Rated Energy	258 kWh (6Pack)	215 kWh (5Pack)
Rated Voltage	921.6V	768V
DC Operating Voltage Range	734.4V ~ 1036.8V DC	612V ~ 864V DC
Recommend DC Voltage Range	777.6V ~ 1022.4V DC	648V ~ 852V DC
Operating Ambient Temperature	-30°C~50°C (Derating above 45°C)	
Storage Ambient Temperature	-30°C~60°C	
Operating Relative Humidity	0~100% (No condensation)	
Cooling Type	Liquid cooling	
Fire Suppression	1. Battery cell level (perfluorohexanone) 2. Canibet level (perfluorohexanone or aerosol) 3. Water fire suppression	
Communication Interface	CAN, RS485	
Cabinet Connection	Plug-in connector	
Dimension (W×D×H)	1000×1350×2200 mm	
Weight	< 2.5T	< 2.2T
Ingress Protection Rating	IP55	
Anti-corrosion	C4 (C5 optional)	
Operating Altitude	≤ 4000m (Derating above 2000m)	
Installation	Ground mounting	
Standard	IEC62619, UN38.3, UL9540A, UL1973	

*All specifications are subject to change without notice.

PAC-750K-H1

Junction cabinet



Efficient & Flexible

- Maximum 6-module combiner, supports 2 to 6 cabinets in parallel
- Compact footprint, supports wall-mounted installation



Safety & Friendly

- Easy to maintain and install
- IP55 protection, C4 corrosion resistance, strong environmental adaptability

Model	PAC-750K-H1
Input Side	
Rated Operating Voltage	400V AC, Three-phase four-wire
Rated Current	6×180A (max 6 cabinets in parallel)
Maximum Current	Max. 1188A
Rated Input Power	6×125 kW
System Parameters	
Operating Ambient Temperature	-30°C-50°C (Derating above 45°C)
Storage Ambient Temperature	-30°C-60°C
Relative Humidity	0-100% (No condensation)
Maximum Operating Altitude	≤ 2000m (Customized if above)
Ingress Protection Rating	IP55
Anti-corrosion	C4 (C5 optional)
Wire Inlet & Outlet	Bottom inlet, bottom outlet
Dimension (W×D×H)	700×700×2182 mm
Weight	< 300kg
Installation	Ground mounting
Standard	IEC/EN 61439-2

*All specifications are subject to change without notice.

EBI 99-125K-R

PCS



High yield

- Advanced three-level technology, max. efficiency 98.3%
- Effective forced air cooling, no derating up to 45°C
- Rack level management, more battery usable energy



Flexible & Reliable

- Bidirectional power conversion system with full four-quadrant operation
- Modular design, easy for design & maintenance
- IP66 protection degree, suitable for outdoor installation



Grid support

- Compliant with CE, IEC 62477 and grid regulations
- L/HVRT, Fast active/reactive power response

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Model	EBI 99K-R	EBI 125K-R
DC Side		
Maximum DC Voltage	1200V	
DC Voltage Working Range	600-1200V	
DC Voltage Full-power Working Range	650-1100V	
Maximum DC Current	158A	220A
AC Side (Grid-on)		
Rated AC Power	99.99 kW	125 kW
Maximum AC Active Power	99.99 kW	138 kW
Maximum AC Apparent Power	99.99 kVA	138 kVA
Rated AC Current	144A	180A
Maximum AC Current	144A	198A
Rated Grid Voltage	400V 3W+PE	
Grid Voltage Range	340-440V	
Rated Grid Frequency	50/60Hz	
Grid Frequency Range	45-55Hz / 55-65Hz	
Power Factor	-1-1	
THDi (@Rated Power)	< 3%	
System Parameters		
Working Temperature	-35°C-60°C, > 45°C derating	
Relative Humidity	0-100%, no condensation	
Noise Level	< 75dB	
SPD	DC: type II, AC: type II	
Maximum Working Altitude	4000m, > 2000m derating	
Cooling Method	Temperature controlled forced air cooling	
Communication Port	CAN, RS485, Ethernet	
Degree of Protection	IP66	
Mechanical Parameters		
Dimensions (W×H×D)	740×265×850 mm (without terminals)	
Weight	< 98kg	
Terminal Block (AC/DC/Signal)	Waterproof quick plug	

*All specifications are subject to change without notice.

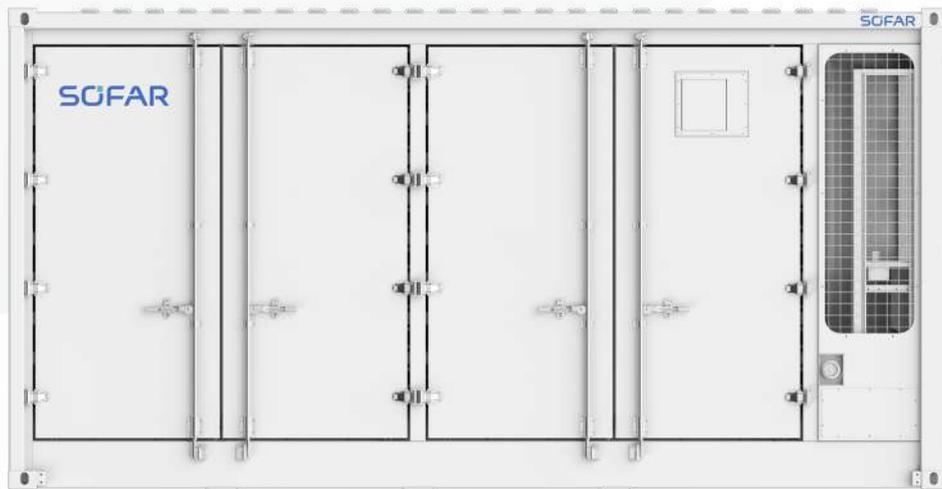


07 Utility BESS PowerMaster

ESS-5M16LG-BD1

Utility BESS

Liquid-cooled ES container



Ultra-long lifespan

- Industry's first lamination short-blade battery cell, with over 10,000 cycles
- Fully upgrade of thermal management system, dual-sided liquid cooling reduces temperature difference by 50%, increasing system lifespan by 10%



Ultimate safety

- Cells: "Short-blade + Lamination" process ensures intrinsic safety, passing extreme nail penetration tests
- System: Intelligent early warning + three-level fire protection, ensuring safety throughout the lifecycle



High efficiency and intelligence

- System energy efficiency is 1% higher than the industry average
- Energy density per unit area is 3% higher than the industry average, with 2.8% higher usable energy



Multi-scenario applications

- Supports single-rack management, enhancing energy utilization and reducing inter-rack current circulation
- The product supports peak shaving, grid-level frequency regulation, and renewable energy integration

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Model	ESS-5M16LG-BD1
Cell	
Battery Type	LFP
Cell Capacity	350Ah
Cycle Life	≥ 10,000 cycles @70% SOH
System	
Dimensions (W×H×D)	6058×3100×2438 mm
Weight	43t
Cell Configuration	1P384S ×12
Energy Output(Max.)	5160 kWh
Nominal Voltage	1228.80V
Charge/Discharge Rate	≤ 0.5P
Protection Level	IP55
Corrosion Resistance Level	C4/C5
Pollution Resistance Level	II
Operating Altitude	≤ 3000m (derated at 4000m)
Temperature Range	-30°C-55°C
Humidity Range	0-95%, no condensation

*All specifications are subject to change without notice.

EBI 215K-R

PCS



High yield

- Advanced three-level topology, max. efficiency 99%
- Effective forced air cooling, no derating up to 45°C
- Rack level management, more battery usable energy



Flexible & Reliable

- Bidirectional power conversion system with full four-quadrant operation
- Modular design, easy for installation & maintenance
- IP66 protection degree, suitable for outdoor installation



Grid support

- Compliant with CE, IEC 62477-1 and grid regulations
- L/HVRT, Fast active/reactive power response

Model	EBI 215K-R
DC Side	
Maximum DC Voltage	1500V
DC Voltage Working Range	1000-1500V
Maximum DC Current	220A
AC Side (Grid-on)	
Rated AC Power	215 kW
Maximum AC Active Power	237 kW
Maximum AC Apparent Power	237 kVA
Rated AC Current	180A
Maximum AC Current	198A
Rated Grid Voltage	690V 3W+PE
Grid Voltage Range	586.5-759V
Rated Grid Frequency	50/60Hz
Grid Frequency Range	45-55Hz / 55-65Hz
Power Factor	-1- 1
THDi (@Rated Power)	< 3%
System Parameters	
Working Temperature	-35°C-60°C, > 45°C derating
Relative Humidity	0-100%, no condensation
Noise Level	< 75dB
Maximum Working Altitude	4000m, > 2000m derating
Cooling Method	Temperature controlled forced air cooling
Communication Port	CAN, RS485, Ethernet
Degree of Protection	IP66
Mechanical Parameters	
Dimensions (W×H×D)	740×265×850 mm (without terminals)
Weight	< 96kg
Standard	IEC/EN 62477-1, IEC/EN 61000-6-2/-4, EN 50549-1/-2, VDE-AR-N 4105/4110/4120, C10/11, TOR Typ A/B/C/D G99 Type A, PSE/PTPIREE, GB/T 34120-2023

*All specifications are subject to change without notice.

EBI2580K-DP

Modular Pcs Power Distribution Panel



High yield

- Easy for PCS modules integration, lower transportation, installation and maintenance cost
- Smart air cooling design, no derating up to 45°C
- Rack level battery management, improve SOC balance between racks, higher battery usable capacity



Grid support

- Supports primary frequency control and inertia response
- HVRT/LVRT to support the grid
- Supports Modbus TCP and IEC 104 communication protocol and fast power response



Safe & Reliable

- IP66 for modules and IP55 for system with high environmental adaptability
- Synergy with BMS and EMS to support multiple protection

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Model	
Model	EBI2580K-DP
DC Side	
Max. DC Voltage	1500V
DC Voltage Working Range	1000-1500V
Max. DC Current	12×220A
Number of DC Inputs	12
AC Side	
Nominal AC Output Power	2580 kVA @45°C
Max. AC Output Power	2838 kVA @35°C
Nominal AC Current	2160A @45°C
Max. AC Current	2376A @35°C
Nominal Grid Voltage	690V
Grid Voltage Range	586.5-759V
Nominal Grid Frequency	50Hz/60Hz
Grid Frequency Range	45-55Hz / 55-65Hz
Power Factor	-1~1
Number of AC Branches	12
System Characteristics	
Working Temperature	-35°C~60°C, 45°C derating
Relative Humidity	0-100%, no condensation
Max. Working Altitude	2000m (4000m optional)
Cooling Method	Smart controlled air cooling
Communication Ports	CAN, RS485, Ethernet
Communication Protocol	CAN2.0, Modbus RTU, Modbus TCP / IEC 104
Ingress Protection	IP55
Anti-corrosion Grade	C4-M (C5-M optional)
Surge Protection	Type II
Protection Function	IMD, OTP, OCP
Auxiliary Power	230Vac
PCS Expansion	8-12 pcs
Mechanical Parameters	
Dimensions (W×H×D)	2870×2400×860 mm
Weight	< 850kg
Standard	IEC/EN 61439-1/-2

*All specifications are subject to change without notice.

SP5260K-MV

String PCS MV station



High yield

- Higher integration with PCS, MV transformer and switchgear together, lower transportation, installation and maintenance cost
- Max. efficiency 98.9% of PCS, lower power loss
- Smart air cooling design, no derating up to 45°C
- Rack level battery management, improve SOC balance between racks, higher battery usable capacity



Grid support

- Supports primary frequency control and inertia response
- HVRT/LVRT to support the grid
- Supports Modbus TCP and IEC 104 communication protocol and fast power response



Safe & Reliable

- IP66 for modules and IP55 for system with high environmental adaptability
- Synergy with BMS and EMS to support multiple protection

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Model	
SP5260K-MV	
DC Side	
Max. DC Voltage	1500V
DC Voltage Working Range	1000-1500V
Max. DC Current	24×220A
Number of DC Inputs	24
AC Side	
PCS Nominal AC Output Power	5160 kVA @45°C
PCS Max. AC Output Power	5676 kVA @35°C
PCS Nominal AC Voltage	690V, 3W+PE
PCS AC Voltage Range	586.5-759V
PCS Nominal AC Current	24×180A @45°C
PCS Max. AC Current	24×198A @35°C
Nominal Grid Frequency	50Hz
Power Factor	-1-1, adjustable
Transformer	
Transformer Nominal Power	5260 kVA @45°C
Transformer Max. Power	5776 kVA @35°C
LV/MV Voltage	0.69kV/33kV (10kV-35kV Optional)
Transformer Cooling Type	ONAN
Transformer Vector Group	Dy11
Oil Type	Mineral oil (Degradable oil optional)
Auxiliary Transformer Power	100kVA
Protection Function	
DC Input Protection	Load Switch + Fuse
AC Output Protection	Circuit Breaker
Surge Protection	Type II
Ground Fault Monitoring	Yes
Insulation Resistance Detection	Yes
Transformer Protection	Oil OTP, Oil level protection, pressure relief
System Characteristics	
PCS Max. Efficiency	98.90%
Working Temperature	-35°C-60°C, > 45°C derating
Relative Humidity	0-100%, no condensation
Max. Working Altitude	2000m (4000m optional)
Communication Ports	CAN, RS485, Ethernet
Cooling Method	Smart controlled air cooling
Communication Protocol	CAN2.0, Modbus RTU, Modbus TCP / IEC 104
Ingress Protection	IP55
Anti-corrosion Grade	C4-M (C5-M optional)
Surge Protection Level	Type II
Protection Function	IMD, OTP, OCP
Mechanical Parameters	
Dimensions (W×H×D)	8200×2896×2438 mm
Weight	< 25t

*All specifications are subject to change without notice.

ESS-3M44LA-BD1

Battery container



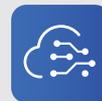
Efficient & Flexible

- Better temperature uniformity, cell temperature difference <math>< 2.5^{\circ}\text{C}</math>
- Liquid-cooling+ Air-cooling, to realize intelligent heat
- Suitable for larger cells to achieve high energy density



Safety & Friendly

- 3+2 ultimate safety design for protection of property and individuals
- Dissipation and Anti-Condensation design



Smart management

- Supports multiple external communication protocols
- Intelligent control and management

BESS Specifications	
Cell Type	LFP/280Ah
Nominal Capacity (BOL)	3.44 MWh
DC operating voltage range	960-1401.6V
Recommended Working Voltage Range	1036.8-1363.2V
Charge and Discharge Rate	≤ 0.5P
Operating Ambient Temperature	-30°C-55°C
Working Environment Relative Humidity	0-100% (No Condensation)
Working Altitude	≤ 4000m
Cooling Method	Air Cooling + Liquid Cooling
Safety Design	Perfluoro Gas Firefighting (Cell Level & Cabin Level) + Backup Water Firefighting+Combustible Gas Emission + Explosion Venting Design
Communication Interface	Ethernet/CAN/RS485
Communication Protocol	IEC61850, IEC104, CAN2.0, Modbus
Degree of Protection	IP55
Anti-Corrosion Grade	C4 (C5 optional)
Dimensions (W×D×H)	6058×2438×2896 mm
Weight	~34T
Standards	GB/T36276, IEC62619, UL1973, UL9540A, UN3536

PACK Specifications	
Model	S1G-LP430
Cell Type	LFP
Series and Parallel Mode	1P48S
Nominal Capacity/Energy	280Ah/43kWh
Rated Voltage	153.6V
DC Operating Voltage Range	120-175.8V
Recommended Working Voltage Range	129.6-170.4V
Charge and Discharge Rate	≤ 0.5P
Working Temperature	-30°C-55°C
Working Environment Relative Humidity	0-100% (No Condensation)
Working Altitude	≤ 4000m
Cooling Method	Liquid Cooling
Fire Fighting Method	Cell-Level Firefighting (Perfluoro)
Communication Interface	CAN
Degree of Protection	IP67
Dimensions (W×D×H)	765×1050×245 mm
Weight	≤ 310kg
Standards	GB/T36276, IEC62619, UL1973, UN38.3

Rack Specifications	
Nominal Energy	344kWh
Configuration	1P384S
Rated Voltage	1228.8V
DC Operating Voltage Range	960-1401.6V
Recommended WorkXing Voltage Range	1036.8-1363.2V
Charge and Discharge Rate	≤ 0.5P
Working Temperature	-30°C-55°C
Working Environment Relative Humidity	0-100% (No Condensation)
Working Altitude	≤ 4000m
Cooling Method	Liquid Cooling
Fire Fighting Method	Perfluoro Gas Firefighting
Communication Interface	CAN, Dry Contact
Dimensions (W×D×H)	1050×1105×2400 mm
Weight	≤ 3.2 T
Standards	GB/T36276, IEC62619, UL1973

EBI 1725K

Smart string PCS



High yield

- Supports 1500Vdc battery system, high conversion efficiency in full power band
- Modular design, easy installation, easy maintenance, lower OPEX
- Intelligent air cooling, no derating at 45°C



Grid friendly

- Supports IEC61850 and fast power response
- Supports active and reactive power response and fourquadrant operation
- Supports high and low voltage ride-through to support the grid



Safe & Reliable

- Module IP66 protection level, system IP55
- Modularized design, high system availability

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Model	
Model	EBI 1725K
DC Side	
Maximum DC Voltage	1500V
DC Voltage Working Range	1000-1500V
Maximum DC Current	875A ×2
AC Side (Grid-on)	
Rated AC Power	1725 kW
Maximum AC Active Power	1898 kW
Maximum AC Apparent Power	1898 kVA
Rated AC Current	1443A
Maximum AC Current	1588A
Rated Grid Voltage	690V
Grid Voltage Range	586.5-759V
Rated Grid Frequency	50/60Hz
Grid Frequency Range	45-55Hz / 55-65Hz
Power Factor	-1-1, adjustable
THDi (@Rated Power)	< 3%
System Characteristics	
Working Temperature	-35°C ~ +60°C
Relative Humidity	0-100%, no condensation
Noise Level	< 80dB@1m
SPD	DC: type II, AC: type II
Maximum Working Altitude	4000m
Cooling Method	Smart air forced cooling
Communication Port	CAN, RS485, Ethernet
Communication Protocol	CAN2.0, Modbus RTU, Modbus TCP, IEC 61850, IEC104
Degree of Protection	Module: IP66, System: IP55
Mechanical Parameters	
Dimensions (W×H×D)	2790×2115×975 mm
Weight	< 1500kg
Standards	
Standards	IEC/EN 61000-6-2/4, IEC 62477-1

*All specifications are subject to change without notice.

SP3545K-MV



Smart O&M

- Modular PCS, easy O&M and more generation
- OTA update, less OPEX



Lower CAPEX

- Integrated PCS, MV transformer, RMU and auxiliary power, lower transportation and installation cost
- Oil leakage tank integrated, lower initial investment



Environment adaptation

- IP55 ingress protection, easy for outdoor installation
- No detaching up to 45°C, suitable for high-temp environment
- C5 anti-corrosion degree optional, adjust to harsh applications



Grid support

- Compliance with standards: IEC 62477-1, IEC 62271-202, IEC 62271-200, IEC 60076 and grid code
- Supports L/HVRT, fast active/reactive power response

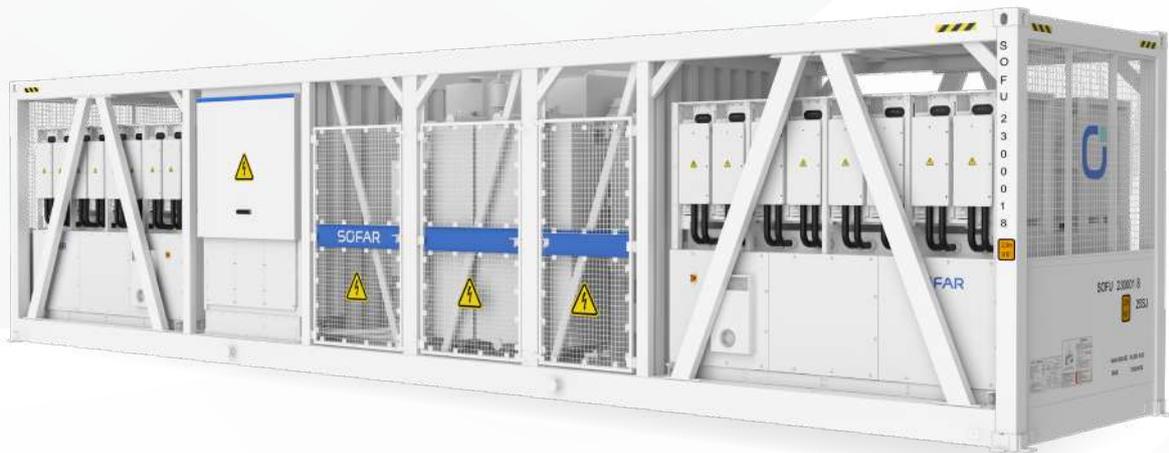
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Model	
Model	SP3545K-MV
DC Side	
Max. DC Voltage	1500V
DC Voltage Range	1000-1500V
Max. DC Current	875A ×4
AC Side (Grid-on)	
AC Output Power	3545 kVA @45°C / 3900 kVA @35°C
Max. AC Current	2966A @45°C / 3263A @35°C (690 V)
PCS Nominal AC Voltage	690V
PCS AC Voltage Range	586.5-759V
Nominal Frequency / Frequency Range	50Hz/45-55Hz (60Hz / 55-65Hz)
Harmonic (THD)	< 3% (At nominal power)
Power Factor	-1~1 (adjustable)
Feed-in Phases / AC Connection	3/3
MV Transformer	
Transformer Rated Power	3545 kVA
Transformer Max. Power	3900 kVA
LV/MV Voltage	0.69kV / (6-37)kV
Transformer Vector	Dy11
Transformer Cooling Type	ONAN
Winding Material	Al (Cu optional)
Oil Type	Mineral oil (PCB free) or degradable oil on request
Protection	
PCS Output Protection	Circuit breaker+Fuse
AC Output Protection	Circuit breaker
Surge Protection	Type II + Type I (PCS)
Overheat Protection	Yes
Overcurrent Protection	Yes
Grid Monitoring / Ground Fault Monitoring	Yes/Yes
Insulation Monitoring	Yes
Transformer Protection	Yes (Includes oil temperature, oil level, pressure relief, gas relays)
System Parameters	
Operating Temperature	-35°C~60°C (Derated above 45°C)
Working Environment Relative Humidity	0-100% (No condensation)
Battery Expansion	Max 5h duration hours BESS (Max 5 ESS-3M44LA-BD1 connected)
Cooling Method	Temperature controlled forced air cooling
Protection Class	IP55
Anti-corrosion Grade	C4-M/C5 (Optional)
Max. Working Altitude	4000m (more than 2000m needs to be customized)
Communication	RS485, CAN, Ethernet
Compliance	IEC 62477-1, IEC 62271-202, IEC 62271-200, IEC 60076
Dimensions (W×D×H)	7000×2438×2896 mm
Weights	< 20t

*All specifications are subject to change without notice.

SP7100K-MV



Smart O&M

- Modular PCS, easy O&M and more generation
- OTA update, less OPEX



Lower CAPEX

- Integrated PCS, MV transformer, RMU and auxiliary power, lower transportation and installation cost
- Oil leakage tank integrated, lower initial investment



Environment adaptation

- IP55 ingress protection, easy for outdoor installation
- No detating up to 45°C, suitable for high-temp environment
- C5 anti-corrosion degree optional, adjust to harsh applications



Grid support

- Compliance with standards: IEC 62477-1, IEC 62271-202, IEC 62271-200, IEC 60076 and grid code
- Supports L/HVRT, fast active/reactive power response

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Model	
Model	SP7100K-MV
DC Side	
Max. DC Voltage	1500V
DC Voltage Range	1000-1500V
Max. DC Current	875A ×8
AC Side (Grid-on)	
AC Output Power	7100 kVA @45°C / 7810 kVA @35°C
Max. AC Current	2 × 2971A @45°C / 2 × 3268A @35°C (690V)
PCS Nominal AC Voltage	690V
PCS AC Voltage Range	586.5-759V
Nominal Frequency / Frequency Range	50Hz / 45-55Hz
Harmonic (THD)	< 3% (At nominal power)
Power Factor	-1~1 (adjustable)
Feed-in Phases / AC Connection	3/3
MV Transformer	
Transformer Rated Power	7100 kVA
Transformer Max. Power	7810 kVA
LV/ MV Voltage	0.69kV / (6.6-37)kV
Transformer Vector	Dy11y11
Transformer Cooling Type	ONAN
Winding Material	Al (Cu optional)
Oil Type	Mineral oil (PCB free) or degradable oil on request
Protection	
PCS Output Protection	Circuit breaker+Fuse
AC Output Protection	Circuit breaker
Surge Protection	Type II + Type I (PCS)
Overheat Protection	Yes
Overcurrent Protection	Yes
Grid Monitoring / Ground Fault Monitoring	Yes/Yes
Insulation Monitoring	Yes
Transformer Protection	Yes (Includes oil temperature, oil level, pressure relief, gas relays)
System Parameters	
Operating Temperature	-35°C-60°C (Derated above 45°C)
Working Environment Relative Humidity	0-100% (No condensation)
Battery Expansion	Max 5h duration hours BESS (Max 10 ESS-3M44LA-BD1 connected)
Cooling Method	Temperature controlled forced air cooling
Protection Class	IP55
Anti-corrosion Grade	C4-M/C5 (Optional)
Max. Working Altitude	4000m (more than 2000m needs to be customized)
Communication	RS485, CAN, Ethernet
Compliance	IEC 62477-1, IEC 62271-202, IEC 62271-200, IEC 60076
Dimensions (W×D×H)	12192×2438×2896 mm
Weights	< 33t

*All specifications are subject to change without notice.

SUFAR

ENERGY TO POWER YOUR LIFE

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