GENERATIONS ENERGY

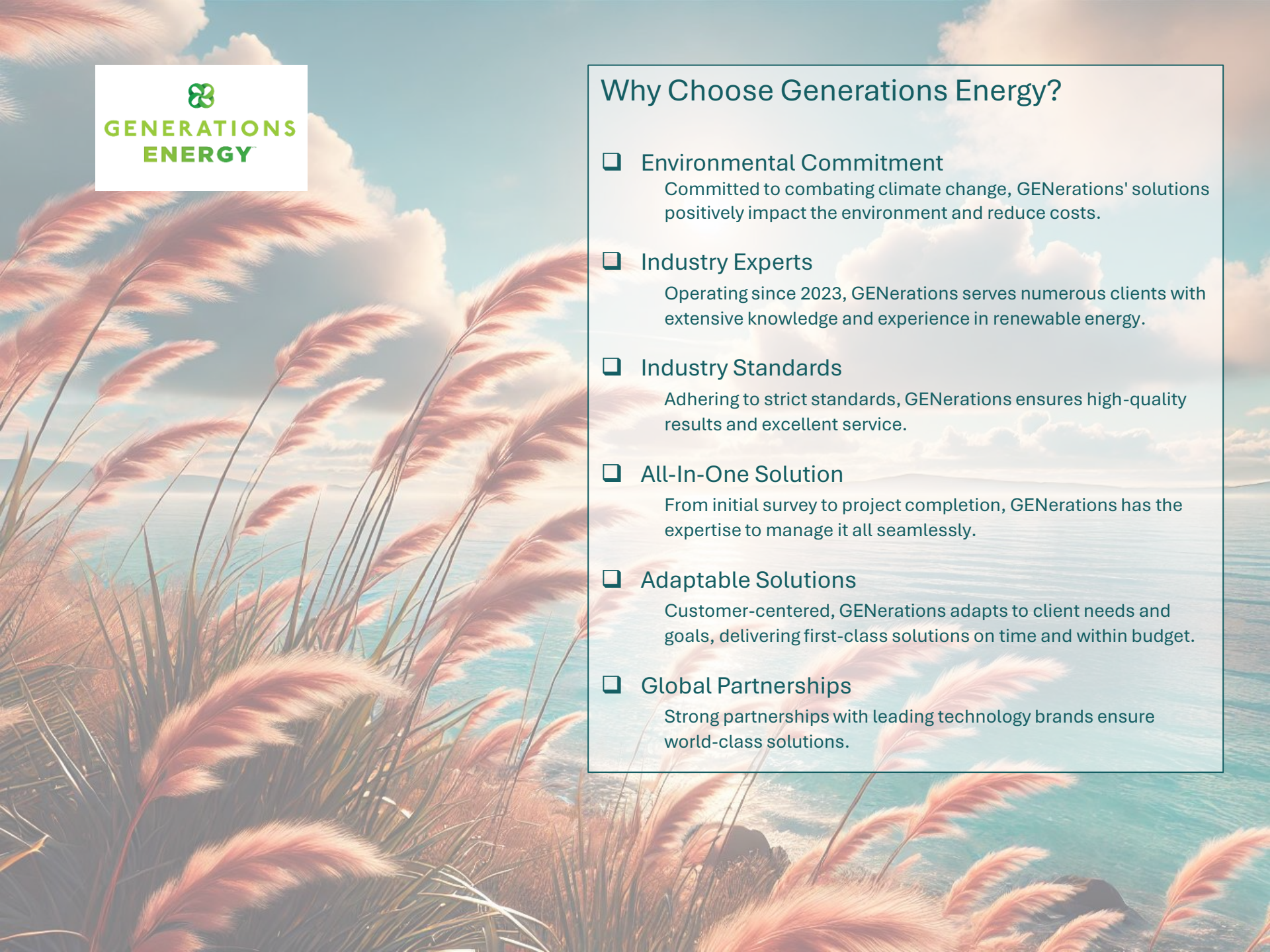
SOFAR Solutions

+64 21588987

Trevor@Generations.nz

www.Generations.nz

Bon Accord Way 30-32 Sophie Rd, Warkworth, 0982.
North Auckland, New Zealand.



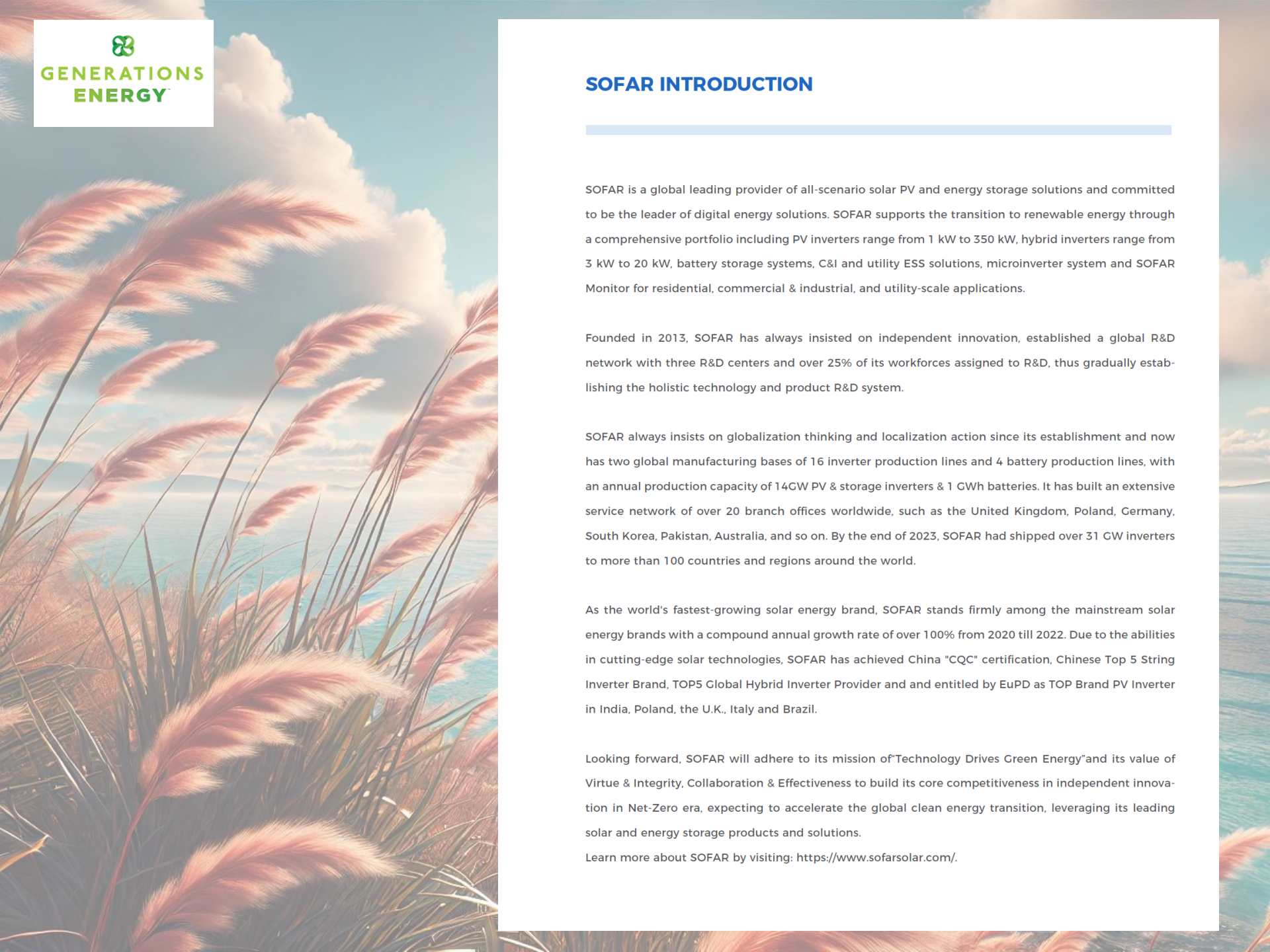
GENERATIONS ENERGY

Why Choose Generations Energy?

- ❑ **Environmental Commitment**
  Committed to combating climate change, GENerations' solutions positively impact the environment and reduce costs.
- ❑ **Industry Experts**
  Operating since 2023, GENerations serves numerous clients with extensive knowledge and experience in renewable energy.
- ❑ **Industry Standards**
  Adhering to strict standards, GENerations ensures high-quality results and excellent service.
- ❑ **All-In-One Solution**
  From initial survey to project completion, GENerations has the expertise to manage it all seamlessly.
- ❑ **Adaptable Solutions**
  Customer-centered, GENerations adapts to client needs and goals, delivering first-class solutions on time and within budget.
- ❑ **Global Partnerships**
  Strong partnerships with leading technology brands ensure world-class solutions.

Trusted New Zealand Partner:

GENERATIONS ENERGY



GENERATIONS ENERGY

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 1 kW to 350 kW, hybrid inverters range from 3 kW to 20 kW, battery storage systems, C&I and utility ESS solutions, microinverter system and SOFAR Monitor 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 25% of its workforces 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 & 1 GWh 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 2023, SOFAR had shipped over 31 GW inverters to more than 100 countries and regions around the world.

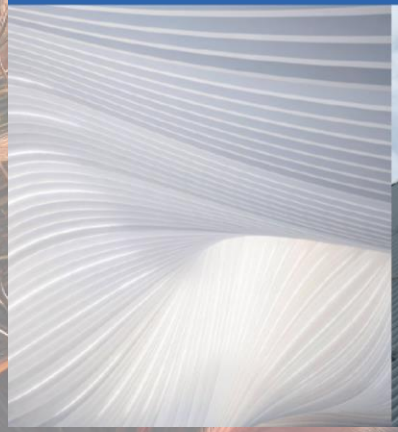
As the world's fastest-growing solar energy brand, SOFAR stands firmly among the mainstream solar energy brands with a compound annual growth rate of over 100% from 2020 till 2022. Due to the abilities in cutting-edge solar technologies, SOFAR has achieved China "CQC" certification, Chinese Top 5 String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

GENERATIONS ENERGY

ENERGY TO
POWER
YOUR LIFE



PRODUCT PORTFOLIO

GENERATIONS ENERGY

↓

01 Single-phase Inverter

SOFAR 1100~3300TL-G3

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

SINGLE-PHASE SINGLE-MPPT

GENERATIONS ENERGY

Product advantages

- Max. efficiency up to 97.7%
- Lightweight, quick and easy to install
- 140% DC overload
- IP65 design for outdoor
- RS485
- Feed-in limitation function
- Optional: Wi-Fi/Ethernet

Datasheet	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 for 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
Rated apparent power	1100VA	1600VA	2200VA	2700VA	3000VA	3300VA
Max. apparent power	1100VA	1600VA	2200VA	2700VA	3000VA	3300VA
Rate output current	4.8A	7.0A	9.6A	11.8A	13.0A	14.3A
Max. Output current	5.3A	7.7A	10.6A	13A	14.5A	16A
Rated grid voltage	L/N/PE,230Vac					
Grid voltage range	180Vac-276Vac					
Rated frequency	50/60Hz					
Grid frequency range	45Hz-55Hz/55Hz-65Hz					
Active power adjustable range	0-100%					
THDi	<3%					
Power factor	1 (adjustable+/-0.8)					
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 protection	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*118mm			321*260.5*131.5mm		
Weight	5.5kg			6.3kg		
Display	LCD					
Communication	RS485, Wi-Fi					
Standard	IEC 61000-6-1/3, IEC 61000-3-2/3 IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC 62109-1/2 AS/NZS 4777.2:2020					

*All specifications are subject to change without notice.

SOFAR 3K~6KTLM-G3

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

SINGLE-PHASE DUAL MPPT

GENERATIONS ENERGY

Product advantages

- Max. efficiency up to 98.4%
- Compact design, lightweight
- Two MPPTs with 150% DC overload
- Natural cooling, no fans, low noise
- Feed-in limitation function
- RS485/Bluetooth, Optional: Wi-Fi/Ethernet

Datasheet	SOFAR 3KTLM-G3	SOFAR 3.6KTLM-G3	SOFAR 4KTLM-G3	SOFAR 4.6KTLM-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	80V-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	6000W
Rated apparent power	3000VA	3680VA	4000VA	4600VA	5000VA	6000VA
Max. apparent power	3300VA	3680VA	4400VA	4600VA	5000VA	6000VA
Rated output current	13.6A	16A	18.2A	21A	21.7A	27.3A
Max. Output current	15A	16A	20A	23A	21.7A	29A
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	1 (adjustable+/-0.8)					
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	<1W					
Topology	Transformerless					
Degree of protection	IP65					
Allowable relative humidity range	0~100%					
Max. operating altitude	4000m					
Cooling	Natural					
Dimension(W×H×D)	349×344×164mm					
Weight	9.2kg			10kg		
Display	LCD & Bluetooth +APP					
Communication	RS485/Wi-Fi					
Standard	IEC 61000-6-1/-2/-3, IEC 61000-3-2/3, IEC 61000-3-11/12, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC 62109-1/2 AS/NZS 4777.2:2020					

*All specifications are subject to change without notice.

SOFAR 7K~10.5KTLM-G3

7 / 8 / 9 / 10 / 10.5 kW

SINGLE-PHASE THREE-MPPTS

GENERATIONS ENERGY

Product advantages

- Max. efficiency up to 98.1%
- Low start-up voltage, wide MPPT voltage range
- Three MPPTs with 150% DC overload
- Compatible with 500 W+ modules
- I-V curve scanning function
- Natural cooling, no fans, low noise
- Prolonged AC overload compatibility (110%)

Datasheet	SOFAR 7KTLM-G3	SOFAR 8KTLM-G3	SOFAR 9KTLM-G3	SOFAR 10KTLM-G3	SOFAR 10.5KTLM-G3
Input (DC)					
Max. input voltage	600V				
Rated input voltage	360V				
Start-up voltage	90V				
MPPT operating voltage range	80V~550V				
Number of MPPTs	3				
Number for DC inputs	3				
Max. input MPPT current	20A/16A/16A				
Max. input short circuit current	30A/25A/25A				
Output (AC)					
Rated output power	7000W	8000W	9000W	10000W	10500W
Rated apparent power	7000VA	8000VA	9000VA	10000VA	10500VA
Max. apparent power	7700VA	8800VA	9900VA	10000VA	10500VA
Rated output current	30.4A	34.8A	39.1A	43.5A	45.6A
Max. Output current	35A	40A	45A	46A	46A
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	1 (adjustable+/-0.8)				
Efficiency					
Max. efficiency	98.1%				
European efficiency	97.3%				
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				
SPD	PV: type II, 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				
Cooling	Natural				
Dimension(W*H*D)	468*380*187 mm				
Weight	17.5kg		18.5kg		
Display	LCD & Bluetooth +APP				
Communication	RS485/WI-FI				
Standard	IEC 61000-6-1/3, IEC 61000-3-11/12, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC 62109-1/2 AS/NZS 4777.2:2020				

*All specifications are subject to change without notice.

GENERATIONS ENERGY

↓

02 Three-phase Inverter

SOFAR 3.3K~12KTLX-G3

3.3 / 4.4 / 5 / 6.6 / 8.8 / 10 / 11 / 12 kW

THREE-PHASE DUAL MPPT

GENERATIONS ENERGY

Product advantages

- Maximum efficiency 98.5%
- Low start-up voltage, wide MPPT voltage
- Maximum DC input voltage 1100 V
- Smart string level monitoring
- Remote firmware upgrade
- Natural cooling, no fans, low noise
- Type II SPD for both DC and AC side

Datasheet	SOFAR 3.3KTLX-G3	SOFAR 4.4KTLX-G3	SOFAR 5KTLX-G3-A	SOFAR 6.6KTLX-G3	SOFAR 8.8KTLX-G3-A	SOFAR 10KTLX-G3-A	SOFAR 11KTLX-G3-A	SOFAR 12KTLX-G3
Input (DC)								
Max. input voltage	1100V							
Rated input voltage	650V							
Start-up voltage	160V							
MPPT operating voltage range	140V-1000V							
Number of MPP trackers	2							
Number for 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
Rated apparent power	3000VA	4000VA	5000VA	6000VA	8000VA	10000VA	10000VA	12000VA
Max. apparent power	3300VA	4400VA	5000VA	6600VA	8800VA	10000VA	11000VA	13200VA
Rated output current	4.3A	5.8A	7.2A	8.7A	11.6A	14.5A	14.5A	17.4A
Max. Output current	5A	6.7A	7.6A	10A	13.3A	15.2A	16.7A	20A
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	1 (adjustable+/-0.8)							
Efficiency								
Max. efficiency	98.40%				98.50%			
European efficiency	97.50%				98.00%			
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℃~+60℃							
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)	430×385×182mm							
Weight	17kg				18kg			
Display	LCD & Bluetooth +APP							
Communication	RS485/Wi-Fi							
Standard	IEC 61000-6-1/3, IEC 61000-3-2/3,IEC 61000-3-11/12, IEC 62109-1/2 AS/NZS 4777.2:2020							

*All specifications are subject to change without notice.

SOFAR 15K~24KTLX-G3

15 / 17 / 20 / 22 / 24 kW

THREE-PHASE DUAL MPPT

GENERATIONS ENERGY

Product advantages

- Maximum efficiency 98.6%
- Low start-up voltage, wide MPPT voltage
- Maximum DC input voltage 1100 V
- Smart string level monitoring
- Type II SPD for both DC and AC side
- Remote firmware upgrade
- 110% long-time overload ability

Datasheet	SOFAR 15KTLX-G3-A	SOFAR 17KTLX-G3	SOFAR 20KTLX-G3-A	SOFAR 22KTLX-G3	SOFAR 24KTLX-G3-A
Input (DC)					
Max. input voltage	1100V				
Rated input voltage	650V				
Start-up voltage	160V				
MPPT operating voltage range	140V-1000V				
Number of MPP trackers	2				
Number for 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
Rated apparent power	15000VA	17000VA	20000VA	22000VA	2400VA
Max. apparent power	15000VA	18700VA	20000VA	24200VA	24000VA
Rated output current	21.7A	24.6A	29.0A	31.9A	34.8A
Max. Output current	23.9A	27.1A	31.9A	35.1A	38.3A
Rated output voltage	3/N/PE, 230V/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	1 (adjustable+/-0.8)				
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)	520×430×198mm				
Weight	20kg	22kg		23kg	
Display	LCD & Bluetooth +APP				
Communication	RS485/Wi-Fi				
Standard	IEC 61000-6-1/3, IEC 61000-3-11/12, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC 62109-1/2 AS/NZS 4777.2:2020				

*All specifications are subject to change without notice.

SOFAR 25K~50KTLX-G3

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

THREE-PHASE THREE TO FOUR MPPTS

GENERATIONS ENERGY

Product advantages

- Max. efficiency up to 98.6%
- Up to 4 MPPTs with DC overload capability (up to 150%)
- Type II SPD for both DC and AC side
- Prolonged AC overload capability (110%)
- Low start-up voltage, wide MPPT voltage range
- Compatible with 500 W+ modules
- I-V curve scanning function

Datasheet	SOFAR 25KTLX-G3	SOFAR 30KTLX-G3-A	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	180V-1000V						
Number of MPPTs	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	29900W	33000W	36000W	40000W	45000W	50000W
Rated apparent power	25000VA	29900VA	33000VA	36000VA	40000VA	45000VA	50000VA
Max. apparent power	28000VA	29900VA	37000VA	40000VA	44000VA	50000VA	55000VA
Rated output current	36.2A	43.3A	47.8A	52.2A	58.0A	65.2A	72.5A
Max. Output current	42.4A	45.3A	56A	60.6A	66.7A	75.8A	83.3A
Rated output voltage	3/N/PE,230/400Vac						
Output voltage range	310Vac-480Vac						
Rated output frequency	50/60Hz						
Output frequency range	45~55Hz/55~65Hz						
Active power adjustable range	0~100%						
THDi	<3%						
Power factor	1 (adjustable+/-0.8)						
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	<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*220mm						
Weight	36kg				37kg		
Display	LCD & Bluetooth +APP						
Communication	RS485/Wi-Fi						
Standard	IEC 61000-6-1/2/3/4, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC 62109-1/2 AS/NZS 4777.2:2020						

*All specifications are subject to change without notice.

SOFAR 100K~125KTLX-G4

100 / 110 / 125 kW

THREE-PHASE TEN MPPTS

GENERATIONS ENERGY

Product advantages

- Max. efficiency up to 98.6%
- IP66 design for outdoor
- Maximum 10 MPPTs with 150%+ DC overload
- Type II SPD for both DC and AC side
- AC/DC dual power supply redundant design, 24- hour status monitoring
- I-V curve scanning function
- Supports Modbus Communication, external Wi-Fi

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	180V-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	1 (adjustable +/-0.8)			
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	75kg			
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, CEI 0-21/16, NTS 631, UNE 217001, UNE 217002, G99, C10/11			

*All specifications are subject to change without notice.

GENERATIONS ENERGY

↓

03 Energy Storage System

HYD 5~20KTL-3PH

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

THREE-PHASE ENERGY STORAGE INTEGRATED INVERTER

GENERATIONS ENERGY

Product advantages

- Various operational modes for optimal performance
- Off-grid output can be connected to unbalanced load, three-phase separate output is supported
- Up to 2 MPPTs, allowing a flexible configuration
- Multiple parallel systems, more flexible system solutions
- Maximum two battery inputs
- Fully digital operation, enabling higher control accuracy

Model	HYD 5KTL-3PH	HYD 6KTL-3PH	HYD 8KTL-3PH	HYD 10KTL-3PH	HYD 15KTL-3PH	HYD 20KTL-3PH
DC input (PV)						
Recommended Max. PV input power	7500Wp	9000Wp	12000Wp	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 inverter back feed current toarray	0A					
Max. number of input strings per MPPT	1/1				2/2	
Max. input current per MPPT	12.5A/12.5A				25A/25A	
Max. short-circuit current per MPPT	15A/15A				30A/30A	
AC output (on-grid)						
Rated output power	5000W	6000W	8000W	10000W	15000W	20000W
Rated apparent power	5000VA	6000VA	8000VA	10000VA	15000VA	20000VA
Rated output current	7.2A	8.7A	11.6A	14.5A	21.7A	29.0A
Rated grid voltage	3/N/PE, 230/400Vac					
Rated grid frequency	50/60Hz					
Max. output apparent power	5500VA	6600VA	8800VA	11000VA	16500VA	22000VA
Max. current output to grid	8A	10A	13A	16A	24A	32A
Max. AC current from grid	15A	17A	24A	29A	44A	58A
Output Inrush current	100A/1μs					
Output fault current	80A/5μs					
Output overcurrent protection (RMS)	10A	12A	15A	18A	26A	34A
Output overcurrent protection (MAX)	20.4A	22.5A	33.1A	40.7A	61.1A	81.5A
THDI	<3%					
Power factor	1 default (+/-0.8 adjustable)					
Battery parameters						
Battery type[3]	Lithium-ion & Lead-acid					
Battery voltage range	180V-800V					
Number of battery input channels	1	1	1	2	2	2
Max. charge/discharge power	5000W	6000W	8000W	10000W	15000W	20000W
Max. charge/discharge current	25A	25A	25A	50A(25A/25A)	50A(25A/25A)	50A(25A/25A)
BMS communication mode	CAN, RS485					
AC output (off-grid)						
Rated output power	5000W	6000W	8000W	10000W	15000W	20000W
Rated output current	7.2A	8.7A	11.6A	14.5A	21.7A	29.0A
Rated output voltage	3/N/PE, 230/400Vac					
Rated output frequency	50/60Hz					
Max. output apparent power	5500VA	6600VA	8800VA	11000VA	16500VA	22000VA
Peak output apparent power, time	7500VA, 60s	9000VA, 60s	12000VA, 60s	15000VA, 60s	22500VA, 60s	26000VA, 60s
Max. output current	8A	10A	13A	16A	24A	32A
THDv(@ linear load)	<3%					
Switching time	<10ms					
Efficiency						
Max. MPPT efficiency	99.9%					
Max. efficiency	98.0%	98.0%	98.0%	98.2%	98.2%	98.2%
European efficiency	97.5%	97.5%	97.5%	97.7%	97.7%	97.7%
Max. efficiency of charging/discharging [1]	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	PV:Type II , AC:Type II					
General parameters						
Operating temperature range	-30°C~60°C					
Relative humidity range	5%~95%					
Max. operating altitude	<2000m					
Standby self-consumption [2]	<20W					
Topology	Transformerless					
Installation method	Wall Mounted					
Degree of protection	IP65					
Dimensions (W*H*D)	586.6*515*261.2mm					
Cooling mode	Natural	Natural	Natural	Forced airflow	Forced airflow	Forced airflow
Weight	33kg	33kg	33kg	37kg	37kg	37kg
Communication	RS485/CAN/Wi-Fi, Optional:Ethernet/4G					
Display	LCD & Bluetooth+APP					
Standard	EN61000-6-2, EN61000-6-3, EN61000-3-2, EN61000-3-3, EN61000-3-11, EN61000-3-12, IEC62109-1, IEC62109-2, EN62040-1, AS/NZS 4777, VDE V 0124-100, V0126-1-1, VDE-AR-N 4105, CEI 0-21/CEI 0-16, EN50438/EN50549, G83/G59/G98/G99, UTE C15-712-1, UNE206 007-1					

[1] Battery-AC maximum efficiency of battery charge and discharge
[2] Standby loss at rated input voltage
[3] Please refer to document "SOFAR inverter Model compatible battery list"
*All specifications are subject to change without notice.

BTS E5~E20-DS5

5 / 10 / 15 / 20 kWh

INTELLIGENT ENERGY STORAGE

GENERATIONS ENERGY

Product advantages

- Modular and integrated design for easy transportation and installation
- Maximal battery energy with pack optimization
- Flexible battery capacity expansion
- Extremely low battery self-consumption in sleep mode
- User-friendly one-button battery operation
- Energy storage specially for ME/HYD 5K~20KTL-3PH inverters

Model	BTS E5-DS5	BTS E10-DS5	BTS E15-DS5	BTS E20-DS5
System Parameters				
System Schematic				
Battery type[1]	LFP			
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 Vdc			
Operating voltage range	350~435 Vdc			
Max. charging current	6A	12A	18A	24A
Max. discharging current	7.5A	15A	22.5A	30A
General Parameters				
Display	LED			
Communication	CAN			
Dimension(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[3]	Charge: 0°C ~ +50°C / Discharge: -10°C ~ +50°C			
Humidity	5-95%			
Installation	Floor Stand			
Max. operating altitude[4]	4000m			
Battery Module[5]				
Model	BTS 5K			
Battery module energy	5.12kWh			
Nominal voltage	400 Vdc			
Nominal voltage	2500W			
Dimension (W*H*D)	708*420*170mm			
Weight	50kg			
Battery Distribution Unit				
Model	BTS 5K-BDU			
Operating Voltage Range	350-435 Vdc			
Maximum Current	30 A			
Number of BTS 5K	1~4			
Protective Class	Class I			
Enclosure Type	IP65			
Dimension (W*H*D)	708*200*170mm			
Weight	7.5kg			
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.

ESI 3-6K-S1
5 / 6 KW

SINGLE-PHASE DUAL MPPT

GENERATIONS ENERGY

Product advantages

- Modular and integrated design for easy transportation and installation
- Maximal battery energy with pack optimization
- Flexible battery capacity expansion
- Extremely low battery self-consumption in sleep mode
- User-friendly one-button battery operation
- Switchover time to critical loads lessthan 10 ms
- Compatible with high current PV panels

Model						
System Parameters						
System Schematic						
Inverter Module	ESI 5/6K-S1					
Number of Inverter Modules	1					
Battery Module	BTS 5K					
Number of Battery Modules	1	2	3	4	5	6
Battery Total Energyni	5.12kWh	10.24kWh	15.36kWh	20.48kWh	25.6kWh	30.72kWh
IP Rating	IP65					
Operating Temperature [2]	-10°C~+50°C					
Allowable Relative Humidity Range	5%~95%					
Max. Operating Altitude [3]	4000m					
Weight	74.5kg	125.5kg	176.5kg	228.5kg	279.5kg	330.5kg
Dimension (W*H*D)[4]	708*890*170mm	708*1310*170mm	708*1730*170mm	708*1310*170mm 708*900*170mm	708*1310*170mm 708*1320*170mm	708*1730*170mm 708*1320*170mm
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 5/6K-S1 Inverter Module] + N * [BTS 5K Battery Module]					
Inverter Module	ESI 5K-S1			ESI 6K-S1		
PV Input						
Recommended Max.PV Power	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 Trackers	1/1					
Max. Input Current	16/16 A					
Max. Isc	22.5/22.5 A					
Battery						
Rated Voltage Range	400 Vd.c.					
Max. charging/discharging current	20 A					
AC Input(Grid)						
Rated Input Voltage	L+N+PE,220/230/240 Va.c.					
Rated Input Frequency	50/60 Hz					
Max. Input Current	45.5/43.5/41.7 A			54.5/52.2/50.0 A		
Inverter Module						
Rated Output Voltage	L+N+PE,220/230/240 Va.c.					
Rated Output Frequency	50/60 Hz					
Rated Output Power	5 kW			6 kW		
Max.Apparent Power	5 kVA			6 kVA		
Peak Output Apparent Power [4]	7500VA, 60s			9000VA, 60s		
Switching time	10 ms default					
Dimension (W*H*D)	708*410*170 mm					
Weight	22.5 kg					
Battery Module	BTS 5K					
Battery Type	LFP					
Battery Module Energy	5.12 kWh					
Rated Power	2.5 kW					
Topology	Isolation					
Dimension (W*H*D)	708*420*170 mm					
Weight	50 kg					
Standard	EN 61000-6-2, EN 61000-6-3, IEC 62109-1/2, IEC 62040-1, UN38.3, IEC62619, AS/NZS 4777					

[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.

GENERATIONS ENERGY

04 Smart Energy

STICK LOGGER

LSW-3 / LSE-4W / WF-BLE

GENERATIONS ENERGY

Product advantages

- Independent from inverter to protect parts inside the inverter eliminate potential problems
- Outdoor design,easier to replace faulty equipment
- Plug-and-play for easy installation, no external power supply needed
- IP65 design, adaptable to bad weather condition
- External light indicator, logging status at a glance
- User-friendly App platform to monitor yield performance any time, anywhere

Model	LSW-3	LSE-4W	WF-BLE
General parameters			
Working voltage	DC 5V		
Working power	1.5W		5W
LED	3		4
Communication parameter			
Remote data interface	Wi-Fi	LAN	Wi-Fi
Flash memory	8MB	4MB	
Connected inverters	1		
Software parameter			
Serial communication rate	Default 9600bps (1200~115200bps adjustable)		
Data acquisition interval	Default 5min (1-15min optional)		
User configuration	AT+ instruction set		Remote server
	Remote server		
Firmware upgrade	Remote web		
Environmental parameter			
Working temperature	-30~+70°C		-30~+85°C
Working humidity	10%-90% (Condensation free)		
Protection grade	IP65		
Other			
	Real-time control, Data resume		

*All specifications are subject to change without notice.

CH1000

ControlHub

GENERATIONS ENERGY

Product advantages

- Support monitoring via cloud or mobile APP. Device include inverter, battery, meter
- Built-in EMS function include Self-consumption, VPP access, time of use mode
- Rapid shut down, millisecond level scheduling

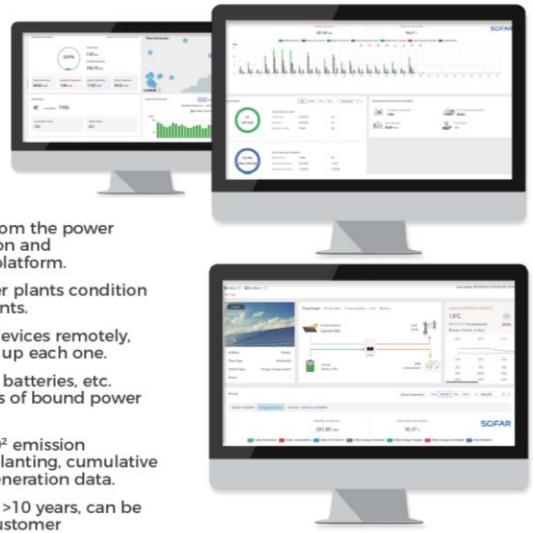
Model	CH1000
Communication to Inverter	
Max. number of connected devices	60pcs
To Micro inverter	868/915Mhz, 802.15.4
To Commercial&Industrial inverter	RS485
Power Supply (Adapter)	
Type	External Adapter
Adapter input voltage/frequency	100 to 240 V AC / 50 or 60 Hz
Adapter output voltage/current	12V/2A
Power consumption	Typical. 5.0W
Internet Connection Options	
Wi-Fi	2.4G, 802.11 b/g/n
Mobile	Optional, LTE CAT.4
Ethernet	RJ45 × 2, 10M/100Mbps
Other Interface	
RS485	COM × 3, Modbus-RTU
Ethernet	RJ45 × 2, 100Mbps
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	SOFAR Cloud
Mechanical Data	
Operating temperature range(℃)	-30 to +65
Environmental rating	IP20
Dimensions (L × W × H mm)	217 * 125 * 34
Altitude	3000m
Installation method	Wall mounting / Desktop mounting / DIN rail
Compliance	
Certificates	IEC61000-6-1/2/3/4、CE-RED、RoHS
Inverter Compatibility	
Micro inverter model	MR500 / MR1000 / MR2000
Commercial&Industrial inverter model	25-50KTLX-G3 / 60-80KTLX-G3 / 100-125KTLX-G4

*All specifications are subject to change without notice.

The SOFAR Monitor is aimed at distributors/installers and end-users of Residential PV& Storage System and C&I PV & Storage System. It is a platform system for the whole life cycle management of new energy power plants, which can effectively help customers to grasp the operation status of power plants in real time, achieve fine control, efficient operation and maintenance, transparent operation and maximum profit.

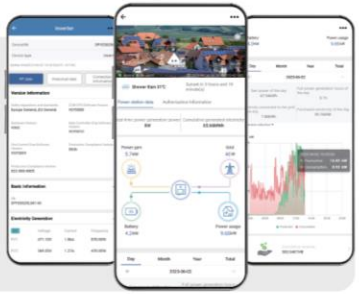
Unlimited no. of inverters

SOFAR Cloud – Web



- Collection of all power data from the power plants during power generation and transmission to the terminal platform.
- Real-time knowledge of power plants condition and devices to prevent accidents.
- Batch upgrade and manage devices remotely, no need to visit the site to set up each one.
- Alerts data covering inverters, batteries, etc. Easy to check the alarm status of bound power plant devices.
- Simulation of coal savings, CO^2 emission reductions, equivalent tree planting, cumulative revenue through electricity generation data.
- General data retention period >10 years, can be extended if required by the customer

SOFAR Cloud – App



Portable management

- Check the status of your power plant anytime, anywhere!
- Flow chart showing current power generation, consumption and grid connection at the plant
- Precise location of the faulty device and the cause of the fault
- Customize your power plant display

Local setup of inverters

- Bluetooth connection for inverters, data transfer
- Remote switch on/off, set safety regulations, language, time, etc.
- Historical events, rapid O&M

Download on the App Store

GET IT ON Google Play

Download QR Code

GENERATIONS ENERGY

↓

05 Utility ESS

Utility ESS

POWER MASTER

GENERATIONS ENERGY

Utility ESS – **PowerMaster**

LESS LCOS	High Efficiency and Flexibility	Ultimate Security	Intelligent Stability

Utility-Scale Energy Storage System Solution

BESS

Smart String PCS MVT

Air-Liquid Mixing

Air-Cooled+Liquid-Cooled
Intelligent Heat Dissipation

Modular Design

Minimal operation and maintenance
One rack for one management
Automatic coordination control,
to ensure full power operation of PCS.

Suitable For Large Cells

Higher Energy Density
3.93MWh

3+2 Security System

Cell-Level Fire Extinguishing Gas Technique +
Cabin-Level Fire Extinguishing Gas Technique +
Water Firefighting Three-Level Linkage
Combustible Gas Emission + Explosion Venting Design

Combined Design

A 40-foot Combined scheme can be used to reduce the floor space by more than 30%.

High conversion efficiency in the full power range

Smart coordination strategy to ensure high efficiency performance of PCS full power-range

BESS

GENERATIONS ENERGY

Product Advantages

- Uniform Flow Liquid-Cooled + Intelligent Air Cooled
- Better temperature uniformity, the temperature difference of cells in the battery pack is <2.5℃
- Anti-Condensation Design
- Combined Design: The 40-foot combination scheme reduces the floor area by more than 30%.
- Three-level linkage of cell-level gas fire protection + cabin-level gas fire protection + water fire protection
- Combustible Gas Emission + Explosion Venting Design
- Prevent secondary re-ignition in the battery compartment
- Ultimate Safety Design

BESS Specifications

Cell Type	LFP/280Ah	LFP/320Ah
Nominal Capacity (BOL)	3.44MWh	3.93MWh
Working Voltage Range	960～1401.6V	
Charge and Discharge Rate	≤0.5P	
Operating Ambient Temperature	-30℃～55℃	
Working Environment Relative Humidity	0～100%(No Condensation)	
Working Altitude	≤4000m	
Cooling Method	Air Cooling + Liquid Cooling	
Fire Fighting Method	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	
Dimensions (W*D*H)	6058*2438*2896mm	
Weight	~34T	~35T
Standards & Certifications	GB/T36276/IEC62619/UL1973/UL9540A/UN3536	

PACK Specifications

Model	S1G-LP430	S1G-LP490
Cell Type	LFP	
Series and Parallel Mode	1P48S	
Nominal Capacity/Energy	280Ah/43kWh	320Ah/49kWh
Rated Voltage	153.6V	
Working Voltage Range	120~175.2V	
Charge and Discharge Rate	≤0.5P	
Working Temperature	-30℃～55℃	
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*245mm	
Weight	≤310kg	≤322kg
Standards & Certifications	GB/T36276、IEC62619、UL1973、UN38.3	

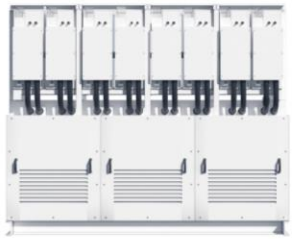
Rack Specifications

Nominal Energy	344kWh	393kWh
Configuration	1P384S	
Rated Voltage	1228.8V	
Working Voltage Range	960～1401.6V	
Charge and Discharge Rate	≤0.5P	
Working Temperature	-30℃～55℃	
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*2400mm	
Weight	≤3.2T	≤3.3T
Standards & Certifications	GB/T36276、IEC62619	

* All specifications are subject to change without notice.

Smart String PCS

GENERATIONS ENERGY



Product Advantages

- Support 1500Vdc battery system, higher system efficiency
- Three-level topology, 99% peak efficiency, lower power loss
- Modular design, easy installation, easy maintenance, lower OPEX
- Rack-level management, more available capacity
- Support active and reactive power response, four-quadrant operation
- Support high and low voltage ride through

  Power grid adaptability, support weak grid SCR1.2.
- Strong environmental adaptability : module, IP66 , system, IP55
- Equipped with intelligent control algorithm, can be expanded in parallel

Specification	PCS Module		PCS System	
MODEL	EBI 215K	EBI 250K	EBI 1725K	EBI 2000K
DC Side Parameters				
Maximum DC Voltage	1500 V		1500 V	
DC Voltage Working Range	1000 ~ 1500 V	1180 ~ 1500 V	1000 ~ 1500 V	1180 ~ 1500 V
Maximum DC Current	242 A		968 A *2	
Grid Side Parameters				
Rated AC Power	215 kW	250 kW	1725 kW	2000 kW
Maximum AC Active Power	237 kW	275 kW	1898 kW	2200 kW
Rated AC Current	180 A		1443 A	
Maximum AC Current	198 A		1588 A	
Rated Grid Voltage	690 V	800 V	690 V	800 V
Grid Voltage Range	586.5~759V	680~880V	586.5~759V	680~880V
Rated Grid Frequency	50 / 60 Hz		50 / 60 Hz	
Grid Frequency Range	45~55Hz / 55~65Hz		45~55Hz / 55~65Hz	
Power Factor	-1~1,Adjustable		-1~1,Adjustable	
Current Total Harmonic Distortion (@Rated Power)	<1%		<3%	
System Characteristics				
Working Temperature	-35℃~60℃		-35℃~60℃	
Relative Humidity	0 ~ 100%(No Condensation)		0 ~ 100%(No Condensation)	
Maximum Working Altitude	4000m		4000m	
Ingress Protection	IP66		IP55	
Mechanical Parameters				
Dimensions (W*H*D)	770 x 850 x 310 mm		2790 x 2110 x 980 mm	
Weight	<87 kg		<1500 kg	

* All specifications are subject to change without notice.

SOFAR

ENERGY TO POWER YOUR LIFE

GENERATIONS ENERGY™