

To Make ESS Better

#### NINGBO DEYE ESS TECHNOLOGY Co., Ltd.

Add: No.1 Tianxu Road, Economic Development Zone, Cixi, Ningbo, China Tel: 0086-0574-86120560 | Fax: 0086-0574-86228852 E-mail: market@deye.com.cn | Web: www.deyeess.com









Note: The technical data above mentioned may be updated or revised due to product development. The data in this brochure is subject to change without notice. The latest datasheet and catalogue can be acquired via market@deye.com.cn



# World-leading Energy Storage System Provider

Stock Code: 605117.SH

Choose Deye — Choose a Green and Healthy Life



# **About Deye**



#### China Stock Code:605117

- Ningbo Deye Technology Co., Ltd. is a large scale manufacturing technology enterprise integrating R&D,design,production,sales and services.
- Deye has five core industrial chains:
  - The solar inverter system
  - The Li battery energy storage system
  - The frequency conversion control system
  - The environmental electrical appliance series
  - The heat exchanger series
- Deye ESS base in CiXi city of Ningbo. More than 170,000 square meter R&D center,battery pack,BMS, sheet metal processing, and spray factory. Deye ESS has15,000 sets(100,000 sets before 2025) ESS product capacity per month. Deye ESS product is certified by UL,CE etc.

# Deye Milestones

### 2022

After a year and a half of energy storage product development and accumulation, up to now, Accumulative orders of energy storage products have exceeded 10,000 sets

2021

Deye Group was successfully listed on SSE of China in 2021, Stock Code 605117.SH.

2020

Founded Deye ESS company and prepared to build a team with senior industry experience, Devoted to make ESS better

2019

By the end of 2019, with total shipments 30,000+, Deye hybrid inverter has become Top 3 in South Africa, Pakistan and Top 1 Chinese brand in USA.

2017

Deye has launched first generation hybrid inverter and attracted a lot of attention with many unique features such as V/f droop control technology and battery DC / DC topology etc...

2007

Founded in 2007 with registered capital of 46 million USD.

# Core Technology

Safer

Cobalt Free Lithium Iron Phosphate (LFP) Battery: Safety and long Lifespan, high efficiency and high-Power density. Intelligent BMS, providing complete protection.

Reliable

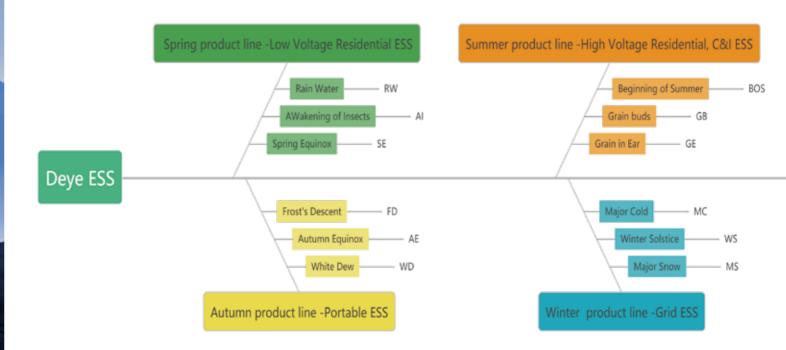
Support high discharge power. IP65, natural cooling, wide temperature range: -20 ℃ to 55 ℃.

Modular design, easy to expand, Max. 32 units in parallel, Max. capacity of 163.8 kWh. Suited to residential and commercial applications for increasing the self-consumption ratio.

Convenient

Battery module auto networking, Automatic IP addressing, Easy maintenance, remotely monitoring and upgrade, Support USB drive upgrade the firmware.

Use environmental protection materials, the whole module non-toxic, pollution-free.



# Battery Portfolio Spring





## SE-G5.1 Pro





#### ♦ Safer:

Cobalt Free Lithium Iron Phosphate (LFP) Battery: Safety and long Lifespan, high efficiency and high-Power density. Intelligent BMS, providing complete protection.

#### **♦** Reliable:

#### ♦ Flexible:

Modular design, easy to expand, Max. 64 units in parallel, Max. capacity of 327kWh.

Suited to residential and commercial applications for increasing the self-consumption ratio.

#### **♦** Convenient:

Battery module auto networking, Automatic IP addressing, Easy maintenance, remotely monitoring and upgrade, Support USB drive upgrade the firmware.

#### ♦ Eco-Friendly:

Use environmental protection materials, the whole module non -toxic, pollution-free.

#### **Technical Data**

Model		SE-G5.1 Pro					
Main Parameter							
Battery Chemistry		LiFePO4					
Capacity (Ah)		100					
Scalability(Max. in 1 ba	ttery group)	Max. 64 pcs pack (327kWh) in parallel (Max. 32 pcs no external setup)					
Nominal Voltage (V)		51.2					
Operating Voltage (V)		43.2~57.6					
Energy (kWh)		5.12					
Usable Energy (kWh)[1]		4.61					
	Recommend <sup>[2]</sup>	50					
Charge/Discharging Current(A)	Max <sup>[2]</sup>	100					
	Peak (2 mins,25°C)	150					
Other Parameter							
Depth of Discharge		90%					
Dimension (W/H/D,mn	n)	445*133*430					
Weight Approximate (	kg)	45					
Master LED indicator		5LED(SOC:20%~100%), 3LED(working,alarming,protecting)					
IP Rating of Enclosure		IP20					
Altitude		≤2000m					
Working Temperature	(°C)	Charge: 0~55/Discharge: -20~55					
Storage Temperature		0°C ~ 35°C					
Humidity		5%~95%					
Cycle Life		25±2°C ,0.5C/0.5C,70%EOL≥6000					
Installation Location		19-inch standard cabinet, cabinet depth ≥600mm / with rack					
Communication Port		CAN2.0, RS485					
Warranty		10 years					
Life Cycle Power Durin	g Warranty Period <sup>[3]</sup>	16MWh@70%EOL					
Certification		UL1973, IEC62619, IEC61000, CE, UN38.3					

- [1] DC Usable Energy, test conditions: 90% DOD, 0.5C charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.
- [2] The current is affected by temperature and SOC.
- $\label{eq:continuous} \ensuremath{\texttt{[3]}} \ensuremath{\texttt{The}} \ warranty \ is \ due \ whichever \ reached \ first \ of \ warranty \ period \ or \ life \ cycle \ power.$

#### Introduction

This series lithium iron phosphate battery is one of new energystorage products developed and produced by Deye, it can be used to support reliable power forvarious types of equipment and systems.

This series is especially suitable for application scene of high power, limited installation space, restricted load-bearing and long cycle life.

This series has built-in BMS battery management system, which can manage and monitor cells information including voltage, current and temperature. What's more, BMS can balance cells charging and discharging to extend cycle life.

Multiple batteries can connect in parallel to expand capacity and power in parallel for larger capacity and longer power supporting duration requirements.

## **RW-M6.1**





#### ♦ Safer:

Cobalt Free Lithium Iron Phosphate (LFP) Battery: Safety and long Lifespan, high efficiency and high-Power density. Intelligent BMS, providing complete protection.

#### **♦** Reliable:

Support high discharge power. IP65, natural cooling, wide temperature range: -20°C to 55°C.

#### **♦** Flexible:

Modular design, easy to expand, Max. 32 units in parallel, Max. capacity of 196kWh.

Suited to residential and commercial applications for increasing the self-consumption ratio.

#### **♦** Convenient:

Battery module auto networking, Automatic IP addressing, Easy maintenance, remotely monitoring and upgrade, Support USB drive upgrade the firmware.

#### **♦** Eco-Friendly:

Use environmental protection materials, the whole module non-toxic, pollution-free.

#### ♦ Wall-Mounted:

High-power density:

Flat design, wall-mounted, saving installation space.

#### **Technical Data**

Model		RW-M6.1			
Main Parameter					
Battery Chemistry		LiFePO4			
Capacity (Ah)		120			
Scalability (max. in 1 b	attery group)	Max.32 in Parallel(196kWh)			
Nominal Voltage (V)		51.2			
Operating Voltage(V)		43.2~57.6			
Energy (kWh)		6.14			
Usable Energy (kWh)[1	]	5.53			
	Recommend <sup>[2]</sup>	60			
Charge/Discharge Current (A)	Max <sup>[2]</sup>	100			
Carrette (7 y	Peak (2 mins,25°C)	150			
Other Parameter					
Recommend Depth o	f Discharge	90%			
Dimension (W/H/D,m	m)	460×720×143			
Weight Approximate	(kg)	55			
Master LED Indicator		5LED(SOC:20%~100%), 3LED (working, alarming, protecting)			
IP Rating of Enclosure		IP65			
Working Temperature	e (°C)	Charge:0~55/Discharge:-20~55			
Storage Temperature		0°C ~ 35°C			
Humidity		5%~95%			
Altitude		≤2000m			
Cycle Life		25°C±2°C, 0.5C/0.5C,70%EOL≥6000			
Installation		Wall-Mounted, Floor-Mounted			
Communication Port		CAN2.0, RS485			
Warranty		10 years			
Life Cycle Power Durin	ng Warranty Period <sup>[3]</sup>	20MWh@70%EOL			
Certification		UL1973, FCC, IEC62619, CE, UN38.3			

- [1] DC Usable Energy, test conditions: 90% DOD, 0.5C charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.
- [2] The current is affected by temperature and SOC.
- $\label{eq:continuous} \ensuremath{\texttt{[3]}} \ensuremath{\texttt{The}} \ warranty \ \text{period or life cycle power.}$

#### Introduction

This series lithium iron phosphate battery is one of new energystorage products developed and produced by Deye, it can be used to support reliable power forvarious types of equipment and systems.

This series is especially suitable for application scene of high power, limited installation space, restricted load- bearing and long cycle life.

This series has built-in BMS battery management system, which can manage and monitor cells information including voltage, current and temperature. What's more, BMS can balance cells charging and discharging to extend cycle life.

Multiple batteries can connect in parallel to expand capacity and power in parallel for larger capacity and longer power supporting duration requirements.

## AI-W5.1





#### ♦ Safer:

Cobalt Free Lithium Iron Phosphate (LFP) Battery: Safety and long Lifespan,high efficiency and high-Power density. Intelligent BMS, providing complete protection.

#### ♦ Reliable:

Support high discharge power. IP65, natural cooling, wide temperature range: -20  $^{\circ}\text{C}$  to 55  $^{\circ}\text{C}$ .

#### ♦ Flexible:

Modular design, easy to expand, Max. 6 clusters in parallel (36 pcs), Max. capacity of 184kWh.

Suited to residential and commercial applications for increasing the self-consumption ratio.

#### **♦** Convenient:

Battery module auto networking, Automatic IP addressing, Easy maintenance, remotely monitoring and upgrade, Support USB drive upgrade the firmware.

#### **♦** Eco-Friendly:

Use environmental protection materials, the whole module non-toxic, pollution-free.

#### ◆ Quick Installation :

Flat and stackable design, floor or wall mount, no wiring and extra fixing screws, quick and easy installation.

#### **Technical Data**

Model		Al-W5.1					
Main Parameter							
Battery Chemistry				LiFePO4			
Battery Module Energy	/ (kWh)			5.12			
Battery Module Voltage	e (V)			51.2			
Battery Module Capaci	ty (Ah)			100			
Nominal Voltage (V)				51.2			
Operating Voltage (V)				43.2~57.6			
Scalability(Max. in 1 ba	ttery group)	2	3	4	5	6	
Energy (kWh)		10.24	15.36	20.48	25.6	30.72	
Usable Energy (kWh)[1]		9.2	13.8	18.4	23.0	27.6	
	Recommend <sup>[2]</sup>	100	150	200	250	250	
Charge/Discharging Current(A)	Max <sup>[2]</sup>	180	210	240	300	300	
	Peak (2 mins,25°C)	270	315	360	360	360	
Other Parameter							
Depth of Discharge		90%					
Dimension (W/D/H,mn	n)	697*240*766	697*240*1049	697*240*1332	697*240*1615	697*240*1898	
Weight (kg)		117	163	209	255	301	
Master LED Indicator		5LED(SOC:20%~100%), 3LED(working, alarming, protecting)					
IP Rating of Enclosure		IP65					
Altitude				≤2000m			
Working Temperature	(°C)		Char	ge: 0~55/Discharge: -20	)~55		
Storage Temperature (	°C)	0~35					
Humidity		5%~95%					
Cycle Life		@25±2°C,0.5C/0.5C,70%EOL≥6000					
Installation Location		Floor Mounted, Wall Mounted					
Communication Port		CAN2.0, RS485					
Warranty		10 years					
Life Cycle Power During	g Warranty Period <sup>[3]</sup>		16MW	h(Battery Module @70°	%EOL)		
Certification			UL1973, UL9540A, FCC	C, IEC62619, CE, VDE251	0-10, CE10-21, UN38.3		

<sup>[1]</sup> DC Usable Energy, test conditions: 90% DOD, 0.5C charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.

#### Introduction

This series lithium iron phosphate battery is one of new energystorage products developed and produced by Deye, it can be used to support reliable power forvarious types of equipment and systems.

This series is especially suitable for application scene of high power, limited installation space, restricted load- bearing and long cycle life.

This series has built-in BMS battery management system, which can manage and monitor cells information including voltage, current and temperature. What's more, BMS can balance cells charging and discharging to extend cycle life.

Multiple batteries can connect in parallel to expand capacity and power in parallel for larger capacity and longer power supporting duration requirements.

<sup>[2]</sup> The current is affected by temperature and SOC.

<sup>[3]</sup> The warranty is due whichever reached first of warranty period or life cycle power.

# AI-W5.1-5P1-EU AI-W5.1-8P1-EU AI-W5.1-12P3-EU AI-W5.1-8P1-US AI-W5.1-12P1-US AI-W5.1-15P1-US



#### **Technical Data**

Model	Al-W5.1-5P1-EU	AI-W5.1-8P1-EU	AI-W5.1-12P3-EU	AI-W5.1-8P1-US	AI-W5.1-12P1-US	AI-W5.1-15P1-US
System Specification						
Nominal Output Power/UPS Power (W)	5000 / 5000	8000 / 8000	12000 / 12000	8000 / 8000	12000 / 12000	15000 / 15000
AC Output Frequency and Voltage	50/60Hz; L/N/F	PE 220/230Vac	50/60Hz; 3L/N/PE 220/380, 230/400Vac	60Hz(55Hz-65	Hz); L1/L2/N(PE) 1	20/240/208Vac
Grid Type	Single	Phase	Three Phase		Split Phase	
Energy Range			5kWh~30kWh	(Single system)		
Recommended Energy Configuration	5kWh (Min. 1 module)	10kWh (Min. 2 module)	15kWh (Min. 3 module)	10kWh (Min. 2 module)	15kWh (Min. 3 module)	20kWh (Min. 4 module)
Max. Charging/Discharging Current (A)	120	190	240	185	275	275
Battery Operating Voltage (V)			43.2	~57.6		
Battery Chemistry			LiFe	PO4		
IP Rating of Enclosure			IP	65		
System Certification	IEC62619,IEC	60730,CE,VDE251	0-10, CEI 0-21	UL1	973,UL9540A,IEC6	0730
Warranty	-		10 y	rears		
Inverter Technical Specification						
Max. PV Input Power (W)	6500	10400	15600	10400	15600	19500
Max. PV Input Current (A)	13+13	26+26	26+13	26-	+26	26+26+26
Rated PV Input Voltage (Vdc)	370 (15	0~500)	550 (160~800)		370 (150~500)	!
Start Up DC Voltage (Vdc)	12		160		150	
MPPT Voltage Range (Vdc)	150-		200-650		175-425	
Max. PV Short-circuit Current (A)	17+17	34+34	34+17	44-	+44	44+44+44
No. of MPP Tracker			2			3
Peak Power (off grid)				ed power, 10s		
Power Factor				o 0.8 lagging		
DC injection current (mA)				ear load<1.5%)		
Display			L	D .		
Operating Temperature Range (°C)			-40~60(>45	C derating)		
Relative Humidity				o Condensing)		
Dimension (W x D x H,mm)	697x25	0x330	1	70x450	697x3	00x600
Weight Appr. (kg)	3			36 52		
Communication with BMS				AN		
Safety EMC / Standard	IEC/EN 61000-6-1/	2/3/4,IEC/EN 62109	9-1,IEC/EN 62109-2		UL1741, FCC	
Grid Regulation	,	-AR-N 4105,NRS 0 698, VDE 0126-1-1		IEEE 15	47-2018,IEEE 1547 UL 1699B,UL 1998	,
Max. Efficiency			97.	50%		
Max. charging/discharging efficiency	-		95.	5%		
Battery Technical Specification						
Nominal Voltage (V)			51	.2		
Battery Module Energy (kWh)				12		
Scalability		Max.6 sy:	stems in parallel(36	ocs), Max. capacity	of 184kWh	
Battery Module Dimension (W x D x H,mm)				40*283		
Battery Base Dimension (W x D x H,mm)	-			40*90		
Battery PDU Dimension (W x D x H,mm)				40*110		
Battery Module Weight Appr. (kg)			5(			
Operating Temperature Range		Cł	narge: 0 ~ 55 °C / Dis		C	
Cycle Life	-		≥6000(@25 °C±2 °C,			
Battery Module Certification			40A,FCC, IEC62619,			

www.deyeess.com

# **BOS-G**



#### **♦** Convenient

Quick installation, standard of 19-inch embedded designed module is comfortable for installationand maintenance.

#### ♦ Safe and reliable

Cathode material is made from LiFePO4 with safety performance and long cycle life, The module has less self-discharge, up to 6 months without charging it on shelf, no memory effect, excellent performance of shallow charge and discharge.

#### ♦ Intelligent BMS

It has protection functions including over-discharge, over-charge, over-cu rrent and over-high or low temperature. The systemcan automatically manage charge and discharge state and balance current and voltage of each cell.

#### ♦ Eco-friendly

The whole module is non-toxic, non-polluting and environmentally friendly.

#### **♦** Flexible configuration

Multiple battery modules can be in parallel for expanding capacity and power. Support USB upgrade, wifi upgrade (optional), remote upgrade (Compatible with Deye inverter).

#### ♦ Wide temperature

Working temperature range is from -20°C to 55°C, with excellent discharge performance and cycle life.

#### **Technical Data**

Model		BOS-G					
Main Parameter							
Cell Chemistry			LiFePO4				
Module Energy (kWh)			5.12				
Module Nominal Volt	age (V)		51.2				
Module Capacity (Ah)			100				
Battery Module Qty ir	series. (Optional)	4 (Min)	8 (Standard US Cluster)	12 (Standard EU Cluster)			
System Nominal Volta	age (V)	204.8	409.6	614.4			
System Operating vol	tage (V)	180~230	359~460	537.6~691.2			
System Energy (kWh)		20.48	40.96	61.44			
System Usable Energy	(kWh)	18.5	36.86	55.29			
	Recommend	50					
Charge/Discharge Current (A)	Max	100					
(- 7	Peak (2 mins, 25°C)	125					
Working Temperature	: (°C)	Charge: 0~55/Discharge: -20~55					
Status Indicator		Yellow: Battery High Voltage Power On Red: Battery System Alarm					
Communication Port		CAN2.0/RS485					
Humidity		5~85%RH					
Altitude		≤2000 m					
IP Rating of Enclosure			IP20				
Dimension (W/D/H,m	m)	540	)*590*1650	540*590*2250			
Weight Approximate	(kg)	242	410	430			
Installation Location		Rack Mounting					
Storage Temperature (°C)		0~35					
Recommend Depth of Discharge		90%					
Cycle Life		25±2°C, 0.5C/0.5C, EOL70%≥6000					
Warranty		10 years					
Certification			CE/IEC62619 / UL1973 / UL9540A / UN38	.3			

- [1] DC Usable Energy, test conditions: 90% DOD, 0.5C charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.
- [2] The current is affected by temperature and SOC.
- $\hbox{\cite{1.5ex}} \label{thm:condition} \label{thm:condition$

# **GB-L**



#### Structural safety:

Meet high seismic grade zone 4.

#### ♦ High-voltage stack:

Modules are connected in series without cable connection, and high -voltage platform improves system efficiency.

#### **♦** Thermal management:

Temperature detection of key parts, cell, power plug-in, etc.

#### **♦** Wide temperature operation:

The heating function is optional to meet the application scenarios with low temperature and no sense.

#### **♦** Environmental friendliness:

IP protection grade 65, anti-corrosion grade ≥C2, environmental protection battery.

#### Intelligent and visual:

Support remote upgrade, real-time battery warning information push, LCD data display.

#### **Technical Data**

Model GB-L								
Main Parameter								
Cell Chemistry				LiFePO4				
Module Energy (kWh)				4.09				
Module Nominal Volta	age (V)			102.4				
Module Capacity (Ah)				40				
Battery Module Qty In	Series (Optional)	2	3	4	5	6		
System Nominal Volta	ige (V)	204.8	307.2	409.6	512	614.4		
System Operating volt	age (V)			179.2~691.2				
System Energy (kWh)		8.18	12.27	16.36	20.45	24.56		
System Usable Energy	(kWh)	7.36	11.04	14.72	18.40	22.10		
	Recommend	20						
Charge/Discharge Current (A)	Max	40						
current (/ t)	Peak (2 mins,25°C)	50						
Working Temperature	(°C)	Charge/Discharge:-20~55						
LCD Display		SOC%,Power,Total Voltage						
Communication Port		CAN2.0, RS485						
Humidity		5%~90%						
Altitude		≤2000m						
IP Rating of Enclosure		IP65						
Storage Temperature	(°C)			0~35				
Dimension (W/D/H,mr	n)	540*385*640	540*385*860	540*385*1080	540*385*1300	540*385*1520		
Weight(kg)		76	108	140	172	204		
Installation Location		Floor Mount						
Recommend Depth of	Discharge	90%						
Cycle Life		25±2,0.5C/0.5C, EOL70%≥6000						
Warranty		10 years						
Certification			CE/IEC62619 /V	DE2510-50/ UL1973 /UI	L9540A/UN38.3			

<sup>[1]</sup> DC Usable Energy, test conditions: 90% DOD, 0.5C charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.

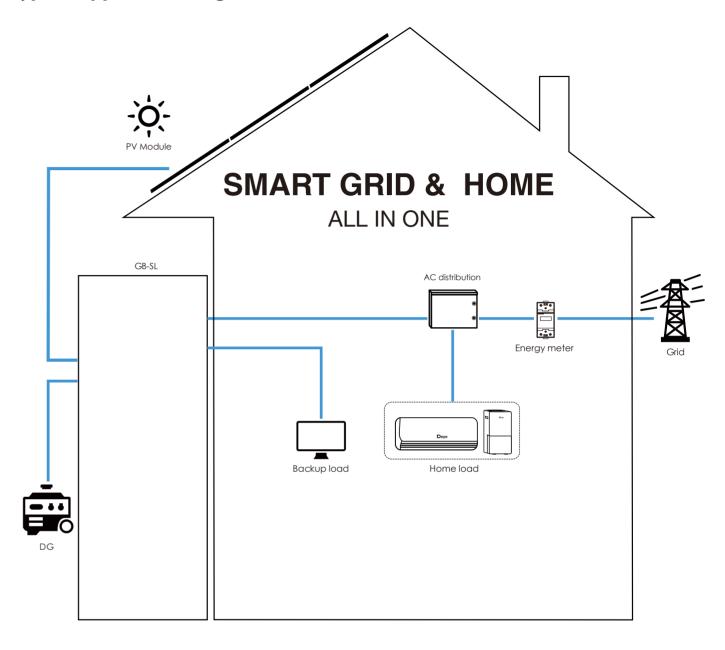
<sup>[2]</sup> The current is affected by temperature and SOC.

<sup>[3]</sup> The warranty is due whichever reached first of warranty period or life cycle power.

# **GB-SL-EU/US**



#### **Typical Application Diagram**



#### Technical Data GB-SL-EU

Model	GB-S6K-EU	GB-S8K-EU	GB-S10K-EU	GB-S12K-EU	GB-S15K-EU	GB-S20K-EU
Battery Input Data						
Battery Type			Li-	lon		
Battery Voltage Range (V)			150-	~700		
Max. Charging Current (A)				37		
Max. Discharging Current (A)				7		
Number of battery input				<u>'</u> 1		
Charging Strategy for Li-lon Battery				ion to BMS		
PV String Input Data			Jen ddapt	IOTI LO DIVIS		
Max. DC Input Power (W)	7800	10400	13000	15600	19500	26000
Max. DC Input Voltage (V)		10400		15000	19300	20000
<u> </u>						
Start-up Voltage (V)				50		
MPPT Range (V)			1	-850	T	I
Full Load DC Voltage Range (V)	195-850	260-850	325-850	340-850	423-850	500-850
Rated DC Input Voltage (V)			6	00		1
PV Input Current (A)		20+20			+20	26+26
Max. PV I <sub>SC</sub> (A)		23+23		32	+23	32+32
No.of MPP Trackers				2		
No.of Strings per MPP Tracker		1		2-	+1	2
AC Output Data						
Rated AC Output and UPS Power (W)	6000	8000	10000	12000	15000	20000
Max. AC Output Power (W)	6600	8800	11000	13200	16500	22000
AC Output Rated Current (A)	9.1	12.2	15.2	18.2	22.8	30.3
Max. AC Current (A)	13	18	22	25	30	35
Max. Continuous AC Passthrough (A)			8	30		
Peak Power (off grid)			1.5 time of rat	ed power, 10 S		
Generator input/Smart load /AC couple current (A)	9.1 / 80 / 9.1	12.2 / 80 / 12.2	15.2 / 80 / 15.2	18.2 / 80 / 18.2	22.8 / 80 / 22.8	30.3 / 80 / 30.3
Power Factor			0.8 leading t	o 0.8 lagging		
Output Frequency and Voltage		5	0/60Hz; 3L/N/PE 2	20/380, 230/400V	ac	
Grid Type			Three	Phase		
DC injection current (mA)			<0.5	%1n		
Efficiency						
Max. Efficiency			97.	50%		
Euro Efficiency			97.	00%		
MPPT Efficiency			99.	90%		
Protection						
Integrated		ightning Protection, on Resistor Detection Ou		Monitoring Unit, Ou	tput Over Current F	
Output Over Voltage Protection			DC Type II,	/AC Type III		
Certifications and Standards						
Grid Regulation		EN50549, AS4777	.2:2015, VDE0126-	1-1, IEC61727, VDI	EN4105-2018, G99	
Safety EMC / Standard			000-6-1/2/3/4, IEC			
General Data		ILC/LIV UI	000 0 1/2/3/T/1LC	,, 02 105 1, IEC/L		
Operating Temperature Range (°C)			-40~:60°C >	15°C derating		
Cooling						
				cooling		
Communication with BMS				5; CAN		
Warranty			5 y	ears		

#### **Technical Data GB-SL-EU**

Model				GB-L					
Battery System Dat	ta								
Cell Chemistry				LiFePO4					
Module Energy (kW	h)			4.09					
Module Nominal Vo	oltage (V)			102.4					
Module Capacity (A	h)			40					
Battery Module Qty	in series.(Optional)	2	3	4	5	6			
System Nominal Vo	oltage (V)	204.8	307.2	409.6	512	614			
System Operating v	oltage (V)			179.2~691.2					
System Energy (kWł	n)	8.18	12.27	16.36	20.45	24.57			
System Usable Ener	gy (kWh)	7.36	11.04	14.72	18.40	22.11			
Chausa (Diashausa	Recommend	20							
Charge/Discharge Current (A)	Max	40							
current () ty	peak (2mins, 25°C)	50							
Working Temperatu	ıre (°C)	Charge/Discharge:-20~55							
Communication Po		CAN2.0/RS485							
Thermal Manageme	ent	Natural Cooling/Smart Heating							
Recommend Depth	of Discharge	90%							
Cycle Life			25±2	°C,0.5C/0.5C,70%EOL≥	:6000				
Warranty				10 years					
Certification		CE/IEC 62619/VDE 2510-50/UN38.3							
Other Data									
Humidity		5~85%RH							
Altitude (m)		≤2000							
IP Rating of Enclosu	re	IP65							
Noise (dB)				<45					
Storage Temperatu	re (°C)	0~35							
Dimension (W/D/H,	Dimension (W/D/H,mm) 540*385*1090 540*385*1310 540*385*1530 540*385*1750 540					540*385*1970			
Weight Approximat	e (kg)	121	153	185	217	249			
Installation Location	1			Floor Mount					

<sup>[1]</sup> DC Usable Energy, test conditions: 90% DOD, 0.5C charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.

<sup>[2]</sup> The current is affected by temperature and SOC.

<sup>[3]</sup> The warranty is due whichever reached first of warranty period or life cycle power.

#### **Technical Data GB-SL-US**

Model	GB-S5K-US	GB-S8K-US	GB-S10K-US	GB-S15K-US			
Battery Input Data							
Battery Type		Li-	lon				
Battery Voltage Range (V)		160	~500				
Max. Charging Current (A)		Į.	50				
Max. Discharging Current (A)			50				
Number of battery input			1				
Charging Strategy for Li-Ion Battery		Self-adapt	ion to BMS				
PV String Input Data							
Max. DC Input Power (W)	6500	10400	13000	19500			
Max. DC Input Voltage (V)	-	5	50				
tart-up Voltage (V)			80				
MPPT Range (V)			i-500				
ull Load DC Voltage Range (V)	163-500	227-500	250-500	317-500			
Rated DC Input Voltage (V)	103-300		80	317-300			
PV Input Current (A)	20+20	26+20		+26			
Max. PV I <sub>SC</sub> (A)	23+23	32+23		+32			
Number of MPPT			2	1 34			
				2			
Strings per MPPT	1	2+1		2			
AC Output Data			40000	45000			
Rated AC Output and UPS Power (W)	5000	8000	10000	15000			
Max. AC Output Power (W)	5500	8800	11000	16500			
AC Output Rated Current (A)	13.9	22.2	27.8	41.6			
Max. AC Current (A)	13.9	22.2	27.8	41.6			
Max. Continuous AC Passthrough (A)			30				
Peak Power (off grid)		1.5 time of rat	ed power, 10 S				
Generator input/Smart load AC couple current (A)	13.9 / *80 / 13.9	22.2 / *80 / 22.2	27.8 / *80 / 27.8	41.6 / *80 / 41.6			
Power Factor		0.8 leading t	to 0.8 lagging				
Output Frequency and Voltage		50/60Hz; L1/L2/L	.3/N(PE) 120/208Vac				
Grid Type		Three	Phase				
OC injection current (mA)		<0.5	5%1n				
Efficiency							
Max. Efficiency		97.	60%				
Euro Efficiency		97.	00%				
MPPT Efficiency		99.	90%				
Protection							
Integrated		Protection, Anti-islanding Prot Detection, Residual Current I Output Shorted Prote					
Output Over Voltage Protection		DC Type II	/AC Type III				
Certifications and Standards							
Grid Regulation		IEEE 1547-2018, IEEE 154	7.1-2020, UL 1699B, UL 199	8			
afety EMC / Standard			2021, FCC				
General Data							
Operating Temperature Range (°C)		-40~60°C.>4	45°C derating				
Cooling							
	Smart cooling						
Communication with BMS	RS485; CAN						

#### **Technical Data GB-SL-US**

Model		GB-L					
Battery System Dat	ta						
Cell Chemistry			LiFePO4				
Module Energy (kW	(h)		4.09				
Module Nominal Vo	oltage (V)		102.4				
Module Capacity (A	h)		40				
Battery Module Qty	in series.(Optional)	2	3	4			
System Nominal Vo	oltage (V)	204.8	307.2	409.6			
System Operating v	roltage (V)		179.2~460.8				
System Energy (kWł	h)	8.18	12.27	16.36			
System Usable Ener	rgy (kWh)	7.36	11.04	14.72			
Cl (D: 1	Recommend	20					
Charge/Discharge Current (A)	Max	40					
Current (A)	peak (2mins, 25°C)	50					
Working Temperatu	ure (°C)	Charge/Discharge:-20~55					
Communication Po	ort	CAN2.0/RS485					
Thermal Manageme	ent	Natural Cooling/Smart Heating					
Recommend Depth	of Discharge		90%				
Cycle Life			25±2°C,0.5C/0.5C,70%EOL≥6000				
Warranty			10 years				
Certification			UL9540/UL1973 /UL9540A/UN38.3	)/UL1973 /UL9540A/UN38.3			
Other Data							
Humidity			5~85%RH				
Altitude (m)		≤2000					
IP Rating of Enclosu	re						
Noise (dB)		<45					
Storage Temperature (°C)		0~35					
Dimension (W/D/H,mm)		540*385*1090 540*385*1310 540*385*1530					
Weight Approximat	te (kg)	121	153	185			
Installation Location	า	Floor Mount					

<sup>[1]</sup> DC Usable Energy, test conditions: 90% DOD, 0.5C charge & discharge at 25 °C. System usable energy may vary due to system configuration parameters.

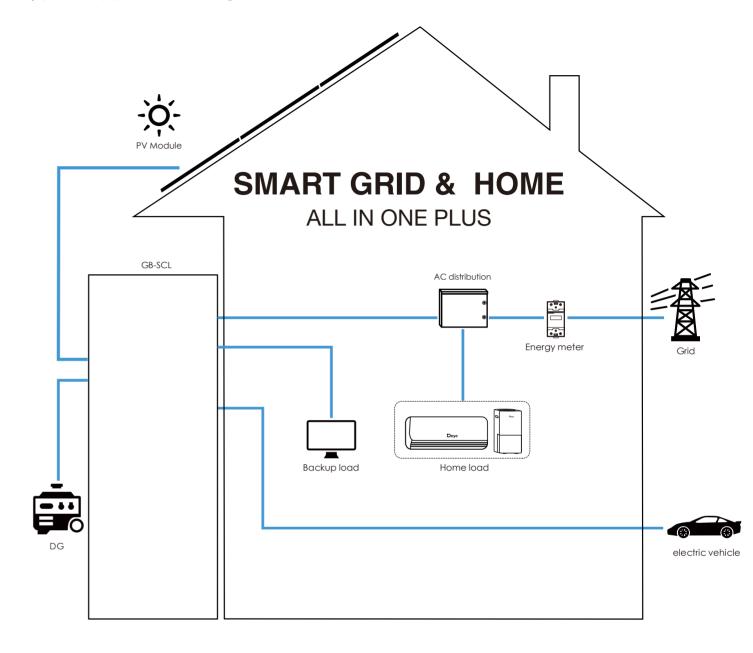
<sup>[2]</sup> The current is affected by temperature and SOC.

 $<sup>\</sup>label{eq:continuous} \ensuremath{\text{[3]}} \ensuremath{\text{The warranty is due whichever reached first of warranty period or life cycle power.}}$ 

# **Summer GB-SCL-EU/US**



#### **Typical Application Diagram**



#### **Technical Data GB-SCL-EU**

Model	GB-S6K-EU	GB-S8K-EU	GB-S10K-EU	GB-S12K-EU	GB-S15K-EU	GB-S20K-EU		
Battery Input Data								
Battery Type		Li-lon						
Battery Voltage Range (V)			150 <sub>°</sub>	~700				
Max. Charging Current (A)			3	7				
Max. Discharging Current (A)			3	7				
Number of battery input				1				
Charging Strategy for Li-Ion Battery			Self-adapt	ion to BMS				
PV String Input Data								
Max. DC Input Power (W)	7800	10400	13000	15600	19500	26000		
Max. DC Input Voltage (V)			10	00		ı		
Start-up Voltage (V)			1:	50				
MPPT Range (V)			150	-850				
Full Load DC Voltage Range (V)		260-850	325-850	340-850	423-850	500-850		
Rated DC Input Voltage (V)		200 000	l .	00	.23 030	300 030		
PV Input Current (A)		20+20		26	+20	26+26		
Max. PV I <sub>SC</sub> (A)		23+23		32-	+23	32+32		
No.of MPP Trackers		20.20		2	. 20	52.52		
No. of Strings per MPP Tracker		1			+1	2		
AC Output Data								
Rated AC Output and UPS Power (W)	6000	8000	10000	12000	15000	20000		
Max. AC Output Power (W)	6600	8800	11000	13200	16500	22000		
AC Output Rated Current (A)	9.1	12.2	15.2	18.2	22.8	30.3		
Max. AC Current (A)	13	18	22	25	30	35		
Max. Continuous AC Passthrough (A)		10		0	30	33		
Peak Power (off grid)				ed power, 10 S				
Generator input/Smart load		400/00/400						
/AC couple current (A)	9.1 / 80 / 9.1	12.2 / 80 / 12.2	15.2 / 80 / 15.2	18.2 / 80 / 18.2	22.8 / 80 / 22.8	30.3 / 80 / 30.3		
Power Factor			0.8 leading t					
Output Frequency and Voltage		5	0/60Hz; 3L/N/PE 2	20/380, 230/400V	ac			
Grid Type			Three	Phase				
DC injection current (mA)			<0.5	%1n				
Efficiency								
Max. Efficiency			97.6	50%				
Euro Efficiency			97.0	00%				
MPPT Efficiency			99.9	90%				
Protection								
Integrated		ightning Protection n Resistor Detectior Ou		Monitoring Unit, Ou	tput Over Current P			
Output Over Voltage Protection			DC Type II	AC Type III				
Certifications and Standards								
Grid Regulation		EN50549, AS4777	.2:2015, VDE0126-	1-1, IEC61727, VDI	EN4105-2018, G99			
Safety EMC / Standard			000-6-1/2/3/4, IEC					
General Data		, 01						
Operating Temperature Range (°C)			-40~60°C >4	15°C derating				
Cooling			Smart					
Communication with BMS				5; CAN				
COMMUNICACION WICH DIVID			11,540.	// =/ 11 4				

5 years

#### **Technical Data GB-SCL-EU**

Model		GB-C20K-EU						
Charger Module Dat	ta							
Rate Power (kw)		20						
Output Voltage Ran	ge (V)		50~	750				
Output Current Ran			0~	50				
Communication Po			CAN	12.0				
Charging standard			CCS2	Tyne				
Standards/regulatio	ns		IEC61					
Operating Tempera			40~					
Cooling	<u> </u>		Smart o					
Warranty			5 ye					
Certification			EN61851-1/					
Model			GE	-L				
Battery System Dat	ra .							
Cell Chemistry			LiFe	PO4				
Module Energy (kW	h)		4.0					
Module Nominal Vo								
Module Capacity (Al								
Battery Module Qty		3	4	5	6			
System Nominal Vo	· · · · · · · · · · · · · · · · · · ·	307.2	409.6	512	614			
System Operating v		268.8~691.2						
System Energy (kWh		12.27 16.36 20.45 24.57						
System Usable Ener		11.04	14.72	18.40	22.11			
-,	Recommend	20						
Charge/Discharge	Max		4					
Current (A)	peak (2mins, 25°C)	50						
Working Temperatu								
Communication Po		Charge/Discharge:-20~55  CAN2.0/RS485						
Thermal Manageme		Natural Cooling/Smart Heating						
Recommend Depth			90					
Cycle Life	or Discharge		25±2°C,0.5C/0.5					
Warranty			10 y	·				
Certification			CE/IEC 62619/VDI					
Other Data			CL/1LC 02017/ VD1	2510 50/01150.5				
Humidity			5~85	%RH				
Altitude (m)								
IP Rating of Enclosur	re	≤2000 IP65						
Noise (dB) <45								
Storage Temperatui	re (°C)		0~					
Dimension (W/D/H,		540*385*1420	540*385*1530	540*385*1640	540*385*2080			
Weight Approximat		173	205	237	269			

[1] DC Usable Energy, test conditions: 90% DOD, 0.5C charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.

Floor Mount

[2] The current is affected by temperature and SOC.

Installation Location

[3] The warranty is due whichever reached first of warranty period or life cycle power.

Warranty

#### **Technical Data-GB-SCL-US**

Model	GB-S5K-US	GB-S8K-US	GB-S10K-US	GB-S15K-US	
Battery Input Data					
Battery Type		Li-	·lon		
Battery Voltage Range (V)	160~500				
Max. Charging Current (A)	50				
Max. Discharging Current (A)	50				
Number of battery input	1				
Charging Strategy for Li-Ion Battery	Self-adaption to BMS				
PV String Input Data					
Max. DC Input Power (W)	6500	10400	13000	19500	
Wax. DC Input Voltage (V)		5	50		
Start-up Voltage (V)					
MPPT Range (V)	150-500				
Full Load DC Voltage Range (V)	163-500	227-500	250-500	317-500	
Rated DC Input Voltage (V)			80	3.7 300	
PV Input Current (A)	20+20	26+20	26+26		
Max. PV I <sub>SC</sub> (A)	23+23	32+23	32+32		
Number of MPPT			32+32		
Strings per MPPT	1	2+1		2	
AC Output Data		ZT1			
Rated AC Output and UPS Power (W)	5000	8000	10000	15000	
Max. AC Output Power (W)	5500	8800	11000	16500	
AC Output Rated Current (A)	13.9	22.2	27.8	41.7	
Max. AC Current (A)					
Max. AC Current (A)  Max. Continuous AC Passthrough (A)	13.9	22.2	27.8	41.7	
Peak Power (off grid)		1.5 time or rat	lea power, 10 5		
Generator input/Smart load AC couple current (A)	13.9 / *80 / 13.9	22.2 / *80 / 22.2	27.8 / *80 / 27.8	41.6 / *80 / 41.6	
Power Factor	0.8 leading to 0.8 lagging				
Output Frequency and Voltage	50/60Hz; L1/L2/L3/N(PE) 120/208Vac				
Grid Type	Three Phase				
OC injection current (mA)	<0.5%1n				
Efficiency					
Max. Efficiency			60%		
Euro Efficiency	97.00%				
MPPT Efficiency	99.90%				
Protection					
Integrated	PV Input Lightning Protection, Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection, Surge protection				
Output Over Voltage Protection		DC Type II	/AC Type III		
Certifications and Standards					
Grid Regulation	IEEE 1547-2018, IEEE 1547.1-2020, UL 1699B, UL 1998				
Safety EMC / Standard	UL 1741-2021, FCC				
General Data					
Operating Temperature Range (°C)	-40~60°C, >45°C derating				
Cooling	Smart cooling				
Communication with BMS	RS485; CAN				
Warranty	5 years				

#### **Technical Data-GB-SCL-US**

Model	GB-C20K-US			
Charger Module Data				
Rate Power (kw)	20			
Output Voltage Range (V)	50~750			
Output Current Range (A)	0~50			
Communication Port	CAN2.0			
Charging standard	CCS1 Type			
Standards/regulations	SAE J1772			
Operating Temperature Range (°C)	40~60			
Cooling	Smart cooling			
Warranty	5 years			
Certification	UL2202/UL2231			
Model	GB-L			

Certification		UL2202/UL2231		
Model		GB-L		
Battery System Dat	a			
Cell Chemistry		LiFePO4		
Module Energy (kWh)		4.09		
Module Nominal Voltage (V)		102.4		
Module Capacity (Ah)		40		
Battery Module Qty in series.(Optional)		3	4	
System Nominal Voltage (V)		307.2	409.6	
System Operating voltage (V)		268.8~460.8		
System Energy (kWh)		12.27	16.36	
System Usable Energy (kWh)		11.04	14.72	
Charge/Discharge	Recommend	20		
Current (A)	Max	40		
	peak (2mins, 25°C)	50		
Working Temperature (°C)		Charge/Discharge:-20~55		
Communication Port		CAN2.0/RS485		
Thermal Management		Natural Cooling/Smart Heating		
Recommend Depth of Discharge		90%		
Cycle Life		25±2°C,0.5C/0.5C,70%EOL≥6000		
Warranty		10 years		
Certification		UL9540/UL1973 /UL9540A/UN38.3		
Other Data				
Humidity		5~85%		
Altitude (m)		≤200		
IP Rating of Enclosu	re	P65		
Noise (dB)		<45		
Storage Temperature (°C)		0~35		
Dimension (W/D/H,mm)		540*385*1420	540*385*1530	
Weight Approximate (kg)		173	205	
Installation Location		Floor Mount		

- $[1] DC \ Usable \ Energy, test \ conditions: 90\% \ DOD, 0.5C \ charge \ \& \ discharge \ at \ 25^{\circ}C. \ System \ usable \ energy \ may \ vary \ due \ to \ system \ configuration \ parameters.$
- [2] The current is affected by temperature and SOC.
- [3] The warranty is due whichever reached first of warranty period or life cycle power.