Product Specifications

Power Base X20-B HV Series

Home Energy Storage System

Version	Prepare	Check	Approve	Date
V1.0	ZJM			2021-05-06

Content

1. Introduction

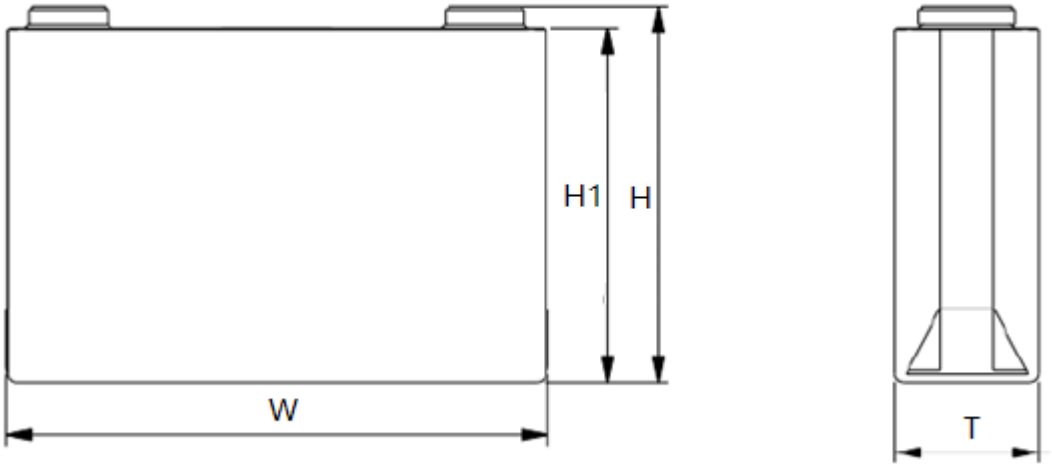
The Power Base X20-B HV series product is a high-voltage lithium iron phosphate battery storage system independently developed in-house by SHENZHEN GARAYE energy technology Co., Ltd. The rated voltage of the single module is 51.2V, series connection is allowed up to 5 modules of 256V. Parallel of multi systems is supported.

2. Features

- Adopt high safety, long life, excellent performance LiFePO4 prismatic cells;
- Over 8000 times of cycle life;
- Intelligent BMS to ensure a safe reliable operation;
- Parallel on cabinet level available;
- Multiple communications including RS485, CAN， RS232;
- Modular rack design for easier installation and smaller landscape.

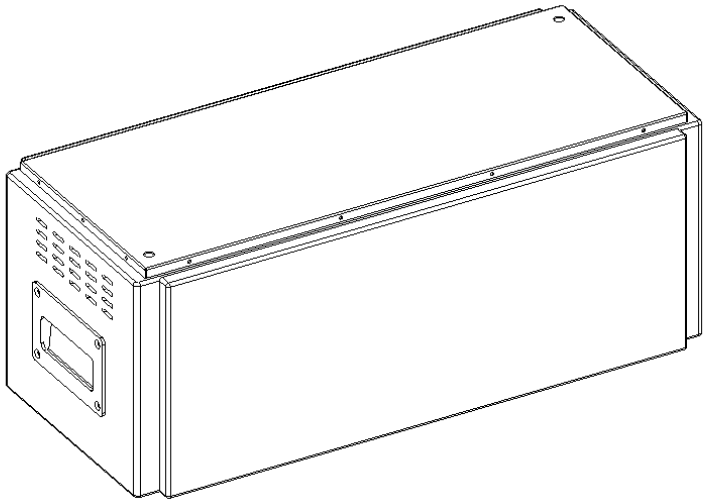
3. Specifications

3.1. Cell Parameters



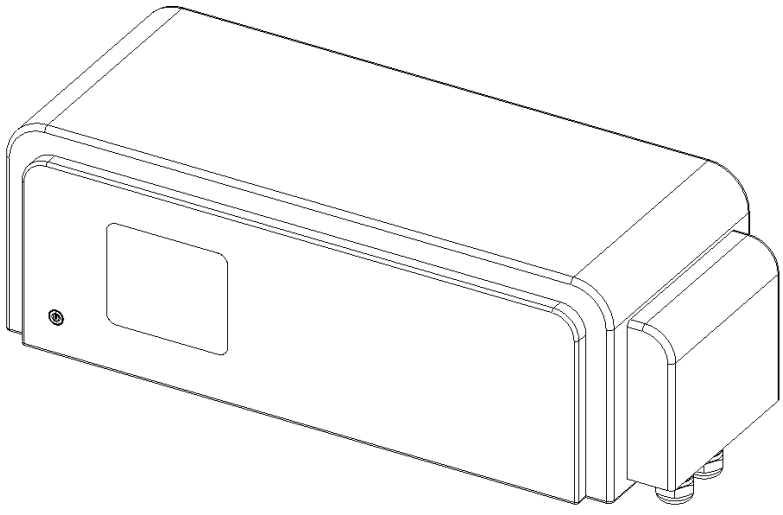
No.	Items		Parameters	
1	Cell Type		LiFePO4 Prismatic	
2	Nominal l Voltage		3.2V	
3	Nominal Capacity		50Ah	100Ah
4	Maximum Charge Current	Continuous	50A	100A
5		Peak for 10s	100A	200A
6	Maximum Discharge Current	Continuous	50A	100A
		Peak for 30s	150A	300A
7	Dimensions (T*W*H)		39*148*101mm	27*174*207mm
8	Weight		1.18±0.05kg	2.18±0.05kg
9	Temperature Range	Charging	0℃ ~ 55℃	
		Discharging	-20℃-55℃	
		Recommended Working	15℃ ~ 35℃	

3.2. Battery Module Parameters



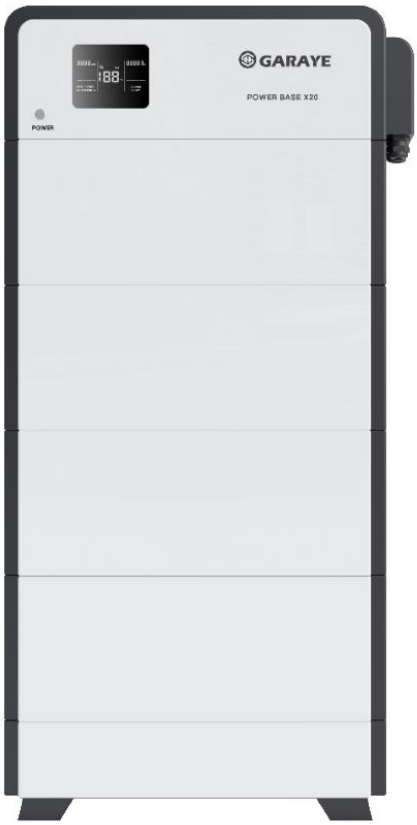
No.	Items	Parameters	
1	Model	GA-FS4850-16OSR2	GA-FS48100-16OSR2
2	Cell Configuration	16S1P	16S1P
3	Nominal Capacity	50Ah	100Ah
4	Nominal Energy	2560Wh	5120Wh
5	Weight (Approx.)	34kg	49kg
6	Dimensions (W*D*H)	606*270*227±2mm	

3.3. Main Control Module Parameters



No.	Items	Parameters
1	Model	GA-MC500-100X2
2	Operation Voltage Range	A:67Vdc – 143Vdc&B:125Vdc – 373Vdc
3	Maximum Operation Current	≤100A
4	Communication	CAN、RS485、RS232
5	Weight(Approx.)	18kg
6	Dimensions (W*D*H)	645*270*212±2mm

3.4. System Parameters



3.4.1. General Specifications

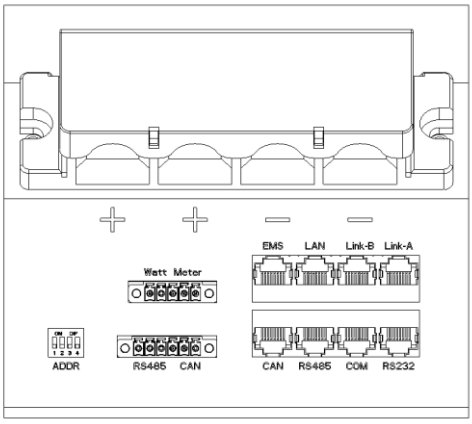
No.	Items		Parameters							
1	Model		X20-B HV_50 Series				X20-B HV_100 Series			
2	Main Control Module		GA-MC500-100X2				GA-MC500-100X2			
3	Battery Module Type		GA-FS4850-16OSR2				GA-FS48100-16OSR2			
4	Nominal Capacity(Ah)		50				100			
5	Chemistry		LiFePO4							
6	Battery Module QTY		2	3	4	5	2	3	4	5
7	Module Configuration		32S1P	48S1P	64S1P	80S1P	32S1P	48S1P	64S1P	80S1P
8	Nominal Energy(kWh)		5.12	7.68	10.24	12.8	10.24	15.36	20.48	25.6
9	Voltage	Nominal(V)	102.4	153.6	204.8	256	102.4	153.6	204.8	256
		Recommend Charging(V)	113.6	170.4	227.2	284	113.6	170.4	227.2	284
		Max. Charging(V)	116.8	175.2	233.6	292	116.8	17.52	233.6	292
		Discharge Cut-off(V)	93.7	140.6	187.5	234.4	93.7	140.6	187.5	234.4
10	Current	Max. Charging(A)	50				100			
		Max. Discharging(A)	50				100			
		Peak for 10s(A)	75				120			
11	Weight (Approx.)		208kg @12.8 kWh				283kg @25.6 kWh			

12	Dimensions (L*H*W))	645*1280 *268mm @256Vdc
13	Communication	RS485, CAN,RS232
14	Cycle Life	8000 times@25℃
15	Designed Calendar Life	≥10 years
16	Safety Function	Over-charge, Over-discharge, Over-current, Low/High-temperature, Low-voltage, Short-circuit Protections
17	Parallel Capability	Maximum 10 units (Recommended 6 units)
18	Cable Outlet	Side-back

3.4.2. Environment Specifications

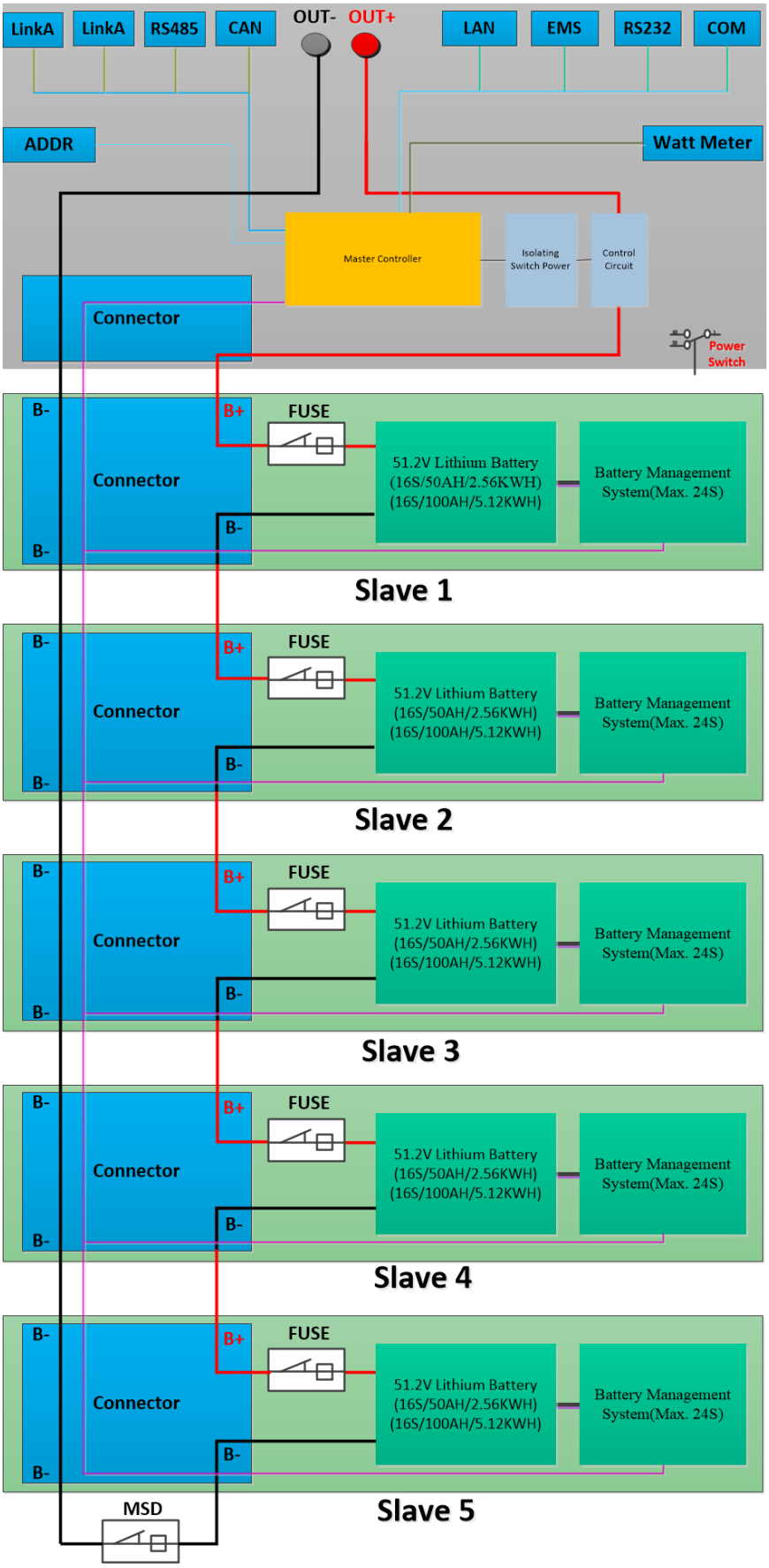
No.	Items	Parameters
1	Charging Temperature Range	0℃~50℃
2	Discharging Temperature Range	-18℃~50℃
3	Best Operating Temperature Range	15℃~35℃
4	Storage Temperature Range	-20℃~55℃
5	Transport Temperature	10℃~30℃
6	Humidity	10%RH~90%RH
7	Altitude	0~2000m

3.4.3. Interface View



No.	Items	Instructions
1	Link-A	Multi-device parallel connection
2	Link-B	Multi-device parallel connection
3	LAN	TCP/IP communication connection
4	EMS	EMS communication connection
5	Watt Meter	Watt Meter connection
6	RS232	RS232 communication connection
7	COM	Upper computer communication connection
8	RS485	Inverter RS485 communication connection
9	CAN	Inverter CAN communication connection
10	ADDR	Address Dial Switch
11	+	Power anode*2
12	-	Power cathode*2

4. Electrical Schematic



5. Product Application