Explanation on DEYE BOS-B Pro-A3 Battery Configuration for Inverters

When matching batteries with inverters, comprehensive consideration shall be given to the battery voltage range and power rating of the inverter, as well as the charge/discharge current and power of the batteries:

1、 The operating voltage range of the batteries shall not exceed the battery-side operating voltage range of the inverter

2、 The operating current shall be the smaller value between the battery charge/discharge current and the inverter battery-side charge/discharge current

3、 The input/output power of the batteries shall reach the rated power of the inverter to maximize its performance

The matching scheme between BOS-B Pro-A3 and DEYE high-voltage inverters is as follows:

Solution	Inverter model	Batteries Configuration
2h	SUN-100K-SG02HP3-EU-GM10	11 units (BOS-B176 Pro-A3)
	SUN-125K-SG02HP3-EU-GM10	14 units (BOS-B224 Pro-A3)
	SUN-50K-SG02HP3-EU-BM4-P	7 units (BOS-B112 Pro-A3)
	SUN-60K-SG02HP3-EU/AU-EM6	8 units (BOS-B128 Pro-A3)
	SUN-80K-SG02HP3-EU/AU-EM6	10 units (BOS-B160 Pro-A3)
3h	SUN-30K-SG02HP3-EU-BM3-P	5 units (BOS-B96 Pro-A3)
	SUN-50K-SG02HP3-EU-BM4-P	10 units (BOS-B160 Pro-A3)
	SUN-60K-SG02HP3-EU/AU-EM6	11 units (BOS-B176 Pro-A3)
	SUN-80K-SG02HP3-EU/AU-EM6	15 units (BOS-B240 Pro-A3)
4h	SUN-30K-SG02HP3-EU-BM3	8 units (BOS-B128 Pro-A3)
	SUN-50K-SG02HP3-EU-BM4	13 units (BOS-B208 Pro-A3)
	SUN-60K-SG02HP3-EU/AU-EM6	15 units (BOS-B240 Pro-A3)

Take the configuration of SUN-125K-SG02HP3-EU-GM10 in the 2-hour solution as an example:

1、 The operating voltage range of BOS-B Pro-A3 is 208–934.4 V, which does not exceed the battery-side operating voltage range (160–1000 V) of SUN-125K-SG02HP3-EU-GM10

2、 The operating current shall be **180 A**, the smaller value between the battery charge/discharge current (180 A) and the battery-side charge/discharge current (200 A, 100 A + 100 A) of SUN-125K-SG02HP3-EU-GM10

3、 The maximum charge/discharge power of a single battery pack in the battery system is 51.2 V × 180 A = 9216 W. To achieve the inverter's rated 125 kW charge/discharge power, the system shall be equipped with at least 14 battery pack

In summary: SUN-125K-SG02HP3-EU-GM10 can be equipped with 14–16 battery packs, and the most cost-effective configuration is 14 battery packs (BOS-B224 Pro-A3).

By the same logic, the configuration of SUN-80K-SG02HP3-EU-EM6 in the 2-hour solution is as follows:

1、 The operating voltage range of BOS-B Pro-A3 is 208–934.4 V, which does not exceed the battery-side operating voltage range (160–1000 V) of SUN-80K-SG02HP3-EU-EM6

2、 The operating current shall be **160 A**, the smaller value between the battery charge/discharge current (180 A) and the battery-side charge/discharge current (160 A, 80 A + 80 A) of SUN-80K-SG02HP3-EU-EM6

3、 The maximum charge/discharge power of a single battery pack in the battery system is 51.2 V × 160 A = 8192 W. To achieve the inverter's rated 80 kW charge/discharge power, the system shall be equipped with at least 10 battery packs

In summary: SUN-80K-SG02HP3-EU-EM6 can be equipped with 10–16 battery packs, and the most cost-effective configuration is 10 battery packs (BOS-B160 Pro-A3).

DEYE BOS-B Pro-A3 关于逆变器搭配电池数量的解释

逆变器搭配电池时需要综合考虑逆变器的电池电压范围、功率以及电池的充放电流、功率：

1、电池工作电压范围不能超出逆变器电池侧工作电压范围

2、工作电流应取电池充放电流与逆变器电池侧充放电流二者中的较小值

3、电池输入/输出的功率需达到逆变器额定功率，以发挥逆变器最大效能

BOS-B Pro-A3 与德业高压逆变器搭配方案如下：

方案	逆变器型号	电池配置
2 小时	SUN-100K-SG02HP3-EU-GM10	11 个电池包(BOS-B176 Pro-A3)
	SUN-125K-SG02HP3-EU-GM10	14 个电池包(BOS-B224 Pro-A3)
	SUN-50K-SG02HP3-EU-BM4-P	7 个电池包(BOS-B112 Pro-A3)
	SUN-60K-SG02HP3-EU/AU-EM6	8 个电池包(BOS-B128 Pro-A3)
	SUN-80K-SG02HP3-EU/AU-EM6	10 个电池包(BOS-B160 Pro-A3)
3 小时	SUN-30K-SG02HP3-EU-BM3-P	5 个电池包(BOS-B96 Pro-A3)
	SUN-50K-SG02HP3-EU-BM4-P	10 个电池包(BOS-B160 Pro-A3)
	SUN-60K-SG02HP3-EU/AU-EM6	11 个电池包(BOS-B176 Pro-A3)
	SUN-80K-SG02HP3-EU/AU-EM6	15 个电池包(BOS-B240 Pro-A3)
4 小时	SUN-30K-SG02HP3-EU-BM3	8 个电池包(BOS-B128 Pro-A3)
	SUN-50K-SG02HP3-EU-BM4	13 个电池包(BOS-B208 Pro-A3)
	SUN-60K-SG02HP3-EU/AU-EM6	15 个电池包(BOS-B240 Pro-A3)

例如 2 小时方案中的 SUN-125K-SG02HP3-EU-GM10 搭配方式：

1、BOS-B Pro-A3 工作电压范围为 208-934.4V，不超出 SUN-125K-SG02HP3-EU-GM10 电池侧工作电压范围 160-1000V

2、工作电流取电池充放电流 180A 与 SUN-125K-SG02HP3-EU-GM10 电池侧充放电流 200A（100A+100A）中的 **180**A

3、电池系统中单个电池包最大充放电功率为 51.2V*180A=9216W，系统达到逆变器额定充放电功率 125kW 需配置最少 14 个电池包

综上所述：SUN-125K-SG02HP3-EU-GM10 可搭配 14-16 个电池包，最经济搭配方式为搭配 14 个电池包（BOS-B224 Pro-A3）

同理 2 小时方案中的 SUN-80K-SG02HP3-EU-EM6 搭配方式：

1、BOS-B Pro-A3 工作电压范围为 208-934.4V，不超出 SUN-80K-SG02HP3-EU-EM6 电池侧工作电压范围 160-1000V

2、工作电流取电池充放电流 180A 与 SUN-80K-SG02HP3-EU-EM6 电池侧充放电流 160A（80A+80A）中的 **160**A

3、电池系统中单个电池包最大充放电功率为 51.2V*160A=8192W，系统达到逆变器额定充放电功率 80kW 需配置最少 10 个电池包

综上所述：SUN-125K-SG02HP3-EU-GM10 可搭配 10-16 个电池包，最经济搭配方式为搭配 10 个电池包（BOS-B160 Pro-A3）