



BYD Battery-Box Compatible Inverter List

Battery-Box Pro 13.8

Version 1.0

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Minimum Configuration with Different Brands of Inverters

1 Minimum configuration with SMA Sunny Island inverter

Inverter Firmware version: minimum required firmware version for SI is V1.73.

Battery-Box firmware version: minimum required firmware version for BMU is V2.7.

1 Phase on Grid	
Inverter Type	Battery-Box 13.8
SI 3.0M	≥1
SI 4.4M	≥1
SI 6.0H	≥1
SI 8.0H	≥1
3 Phase on Grid	
Inverter Type	Battery-Box 13.8
SI 3.0M	≥1
SI 4.4M	≥1
SI 6.0H	≥1
SI 8.0H	≥1
1 Phase off Grid	
Inverter Type	Battery-Box 13.8
SI 3.0M	≥1
SI 4.4M	≥1
SI 6.0H	≥1
SI 8.0H	≥1
3 Phase off Grid	
Inverter Type	Battery-Box 13.8
SI 3.0M	≥2
SI 4.4M	≥2
SI 6.0H	≥3
SI 8.0H	≥3

Remark: Maximum quantity of Battery-Box 13.8 is 32.

2 Minimum configuration with GOODWE inverter

2.1 Minimum configuration with ES

Inverter Firmware version: minimum required firmware version for ARM is 03.

Battery-Box firmware version: minimum required firmware version for BMU is V4-10.

1 Phase on Grid	
Inverter Type	Battery-Box 13.8
GW3648D-ES	≥1 ¹
GW5048D-ES	≥1
1 Phase off Grid	
Inverter Type	Battery-Box 13.8
GW3648D-ES	≥1
GW5048D-ES	≥1

¹ This configuration is only for self-consumption application

Remark: Maximum quantity of Battery-Box 13.8 is 32.

2.2 Minimum configuration with BP

Inverter Firmware version: minimum required firmware version for ARM is 03.

Battery-Box firmware version: minimum required firmware version for BMU is V4-10.

1 Phase on Grid

Inverter Type	Battery-Box 13.8
GW2500-BP	≥1

Remark: Maximum quantity of Battery-Box 13.8 is 32.

2.3 Minimum configuration with EM

Inverter Firmware version: minimum required firmware version for ARM is 03.

Battery-Box firmware version: minimum required firmware version for BMU is V4-10.

1 Phase on Grid

Inverter Type	Battery-Box 13.8
GW3048-EM	≥1
GW3648-EM	≥1
GW5048-EM	≥1

1 Phase off Grid

Inverter Type	Battery-Box 13.8
GW3048-EM	≥1
GW3648-EM	≥1
GW5048-EM	≥1

Remark: Maximum quantity of Battery-Box 13.8 is 32.

2.4 Minimum configuration with SBP

Inverter Firmware version: minimum required firmware version for ARM is 03.

Battery-Box firmware version: minimum required firmware version for BMU is V4-10.

1 Phase on Grid

Inverter Type	Battery-Box 13.8
GW3600S-BP	≥1
GW5000S-BP	≥1

Back-up mode

Inverter Type	Battery-Box 13.8
GW3600S-BP	≥1
GW5000S-BP	≥1

Remark: Maximum quantity of Battery-Box 13.8 is 32.

3 Minimum configuration with Victron inverter

3.1 Minimum configuration with Multiplus

Inverter Firmware version: minimum required firmware version for CCGX is V2.01.

Battery-Box firmware version: minimum required firmware version for BMU is V4-17.

1 Phase on Grid

Inverter Type	Battery-Box 13.8
48/3000/35	≥1
48/5000/70	≥1

3 Phase on Grid	
Inverter Type	Battery-Box 13.8
48/3000/35	≥2
48/5000/70	≥2
1 Phase off Grid	
Inverter Type	Battery-Box x 13.8
48/3000/35	≥1
48/5000/70	≥1
3 Phase off Grid	
Inverter Type	Battery-Box 13.8
48/3000/35	≥2
48/5000/70	≥3
Remark: Maximum quantity of Battery-box 13.8 is 32.	

3.2 Minimum configuration with Multigrid

Inverter Firmware version: minimum required firmware version for CCGX is V2.01

Battery-Box firmware version: minimum required firmware version for BMU is V4-17.

1 Phase on Grid	
Inverter Type	Battery-Box 13.8
48/3000/35	≥1
3 Phase on Grid	
Inverter Type	Battery-Box 13.8
48/3000/35	≥2
1 Phase off Grid	
Inverter Type	Battery-Box 13.8
48/3000/35	≥1
3 Phase off Grid	
Inverter Type	Battery-Box 13.8
48/3000/35	≥2
Remark: Maximum quantity of Battery-box 13.8 is 32.	

3.3 Minimum configuration with Quattro

Inverter Firmware version: minimum required firmware version for CCGX is V2.01.

Battery-Box firmware version: minimum required firmware version for BMU is V4-17.

1 Phase on Grid	
Inverter Type	Battery-Box 13.8
48/5000/70-100/100	≥1
48/8000/110-100/100	≥1
48/10000/140- 100/100	≥1
48/15000/200- 100/100	≥1
3 Phase on Grid	
Inverter Type	Battery-Box 13.8
48/5000/70-100/100	≥2
48/8000/110-100/100	≥2
48/10000/140- 100/100	≥2
48/15000/200- 100/100	≥3
1 Phase off Grid	

Inverter Type	Battery-Box 13.8
48/5000/70-100/100	≥1
48/8000/110-100/100	≥2
48/10000/140- 100/100	≥2
48/15000/200- 100/100	≥3

3 Phase off Grid

Inverter Type	Battery-Box 13.8
48/5000/70-100/100	≥3
48/8000/110-100/100	≥5
48/10000/140- 100/100	≥6
48/15000/200- 100/100	≥7

Remark: Maximum quantity of Battery-box 13.8 is 32.

3.4 Minimum configuration with Easysolar with CCGX

Inverter Firmware version: minimum required firmware version for CCGX is V2.01.

Battery-Box firmware version: minimum required firmware version for BMU is V4-17.

1 Phase on Grid

Inverter Type	Battery-Box 13.8
48/3000/35-50 MPPT150/70	≥1
48/5000/70-100 MPPT150/100	≥1

3 Phase on Grid

Inverter Type	Battery-Box 13.8
48/3000/35-50 MPPT150/70	≥1
48/5000/70-100 MPPT150/100	≥1

1 Phase off Grid

Inverter Type	Battery-Box 13.8
48/3000/35-50 MPPT150/70	≥1
48/5000/70-100 MPPT150/100	≥1

3 Phase off Grid

Inverter Type	Battery-Box 13.8
48/3000/35-50 MPPT150/70	≥2
48/5000/70-100 MPPT150/100	≥3

Remark: Maximum quantity of Battery-box 13.8 is 32.

4 Minimum configuration with Sungrow inverter

4.1 Minimum configuration with SH5K+

Inverter Firmware version: minimum required firmware version is V13.

Battery-Box firmware version: minimum required firmware version for BMU is V4-17, identification label on package: V2.2

1 Phase on Grid

Inverter Type	Battery-Box 13.8
SH5K+	≥1

1 Phase off Grid

Inverter Type	Battery-Box 13.8
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SH5K+ ≥1

Remark: Maximum quantity of Battery-box 13.8 is 32

5 Minimum configuration with Selectronic inverter

5.1 Minimum configuration with SP PRO

Inverter Firmware version: minimum required firmware version is V0.27.

Battery-Box firmware version: minimum required firmware version for BMU is V4-17, identification label on package: V2.2

1 Phase on Grid

Inverter Type	Battery-Box 13.8
SPMC481-AU	≥1
SPMC482-AU	≥1

1 Phase off Grid

Inverter Type	Battery-Box 13.8
SPMC481-AU	≥1
SPMC482-AU	≥2

Remark: Maximum quantity of Battery-box 13.8 is 32.

5.2 Minimum configuration with SP PRO for 3 phase

Inverter Firmware version: minimum required firmware version is 11.06.

Battery-Box firmware version: minimum required firmware version for BMU is V4-22.

3 Phase on Grid

Inverter Type	Battery-Box 13.8
SPMC481	≥1
SPMC482	≥2

3 Phase off Grid

Inverter Type	Battery-Box 13.8
SPMC481	≥3
SPMC482	≥5

Remark: Maximum quantity of Battery-box 13.8 is 32.

6 Minimum configuration with Imeon inverter

Inverter Firmware version: minimum required firmware version is 1.7.7.8.

Battery-Box firmware version: minimum required firmware version for BMU is V4-22. Identification label on package is V2.4

On Grid

Inverter Type	Battery-Box 13.8
IMEON 3.6	≥1
IMEON 9.12	≥1

Off Grid

Inverter Type	Battery-Box 13.8
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IMEON 3.6	≥1
IMEON 9.12	≥1

Remark: Maximum quantity of Battery-Box 13.8 is 32.

7 Minimum configuration with Solis inverter

Inverter Firmware version: minimum required firmware version is 13000F.

Battery-Box firmware version: minimum required firmware version for BMU is V4-22.

Shall bypass main circuit breaker when the system is off grid application.

1 Phase on grid

Inverter Type	Battery-Box 13.8
RHI-3K-48ES	≥1
RHI-3.6K-48ES	≥1
RHI-4.6K-48ES	≥1
RHI-5K-48ES	≥1

1 Phase off grid

Inverter Type	Battery-Box 13.8
RHI-3K-48ES	≥1
RHI-3.6K-48ES	≥1
RHI-4.6K-48ES	≥1
RHI-5K-48ES	≥1

Remark: Maximum quantity of Battery-box 13.8 is 32.

Appendix 1: Common Failures Displayed on Inverter and Solutions

1 Alarm code displayed on the SRC of SMA sunny island and solution

SMA SRC	Possible causes	Solution
F221	External Alarm-Invalid Bat Type	Reset battery type to "Li" on SRC.
F920(XA01General)	1.Any battery module has failed to communicate with the BMU; 2.RS485communication between the BMU and the battery module is failed;	1.Check if the RS485 communication cable has been connected correctly and tightly ; 2.Check DIP switch setting according to the setting of DIP switch guidance in user manual; 3.Change BMU inside the cabinet ;
F921(XA02DcHiVolt)	External Alarm - Battery High Voltage	If the red led is on, please contact the service provider to change the battery. If not, check the system setting according to the guidelines.
F922(XA03DcLoVolt)	External Alarm - Battery Low Voltage	
F923(XA04DcHiTmp)	External Alarm - Battery High Temp	
F924(XA05DcLoTmp)	External Alarm - Battery Low Temp	
F925(XA06DcHiTmpC)	External Alarm - Battery High Temp Charge	
F926(XA07DcLoTmpC)	External Alarm - Battery Low Temp Charge	
F927(XA08DcHiCur)	External Alarm - Battery High Current Discharge	
F928(XA09DcHiChgCur)	External Alarm - Battery High Current Charge	
F930(XA11Short)	External Alarm - Short circuit	1.Power off; 2.Check if there is short connection of cable between P+&P-; 3.If short connection is confirmed, please reconnect cable correctly; 4.Restart battery;
F931(XA12Bms)	External Alarm - BMS internal	If the red led is on, please contact the service provider to change the battery. If not, check the system settings according to the guidelines.
F932(XA13CellBal)	External Alarm - Cell imbalance	
F952	External Alarm –Ext BMS Timeout	1.Check whether the CAN communication cable has been connected correctly and tightly ; 2.Change BMU inside the cabinet;

2 Alarm displayed on the APP of GOODWE and solution

APP of GOODWE	Possible causes	Solution
BMS status: Battery communication fail	Inverter and BMU communication failure	1.Check whether the CAN communication cable has been connected correctly and tightly ; 2.Change BMU inside the cabinet;

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