

# BYD BATTERY-BOX PREMIUM LVS MINIMUM CONFIGURATION LIST – V1.7



## 1. Minimum Configuration List ON Grid

DE: Minimale Konfiguration ON Grid // ES: Configuración mínima para sistemas conectados a red // IT: Configurazione minima per sistemi in rete

Compatible Inverter (1- / 3-phase) DE: Kompatibler Wechselrichter ES: Inversores compatibles IT: Inverter compatibile		Minimum Configuration for Single Phase DE: Minimale Konfiguration für eine Phase ES: Cantidad mínima de baterías para sistemas monofásicos a red IT: Numero minimo di batterie per sistemi monofase in rete		Minimum Configuration for Three Phase DE: Minimale Konfiguration für drei Phasen ES: Cantidad mínima de unidades para sistemas trifásicos a red IT: Numero minimo di batterie per sistemi trifase in rete	
		LVS Module	Tower (PDU)	LVS Module	Tower (PDU)
SMA	SI 4.4M	≥1	≥1	≥4	≥1
	SI 6.0H	≥2	≥1	≥6	≥2
	SI 8.0H	≥3	≥1	≥8	≥2
	Battery firmware: BMU ≥ V1.19, BMS ≥ V1.8; Inverter firmware ≥ V1.3.1.R. Please use below setting parameters for Sunny Island when working with LVS. Lower limit of deep discharge protection area prior shutdown <2%; Minimum width of deep discharge protection area: ≥8%; Area width for conserving battery state of charge: 3-5%.				
Victron	Multiplus 48/3000/35	≥1	≥1	≥1	≥1
	Multiplus 48/5000/70	≥1	≥1	≥1	≥1
	Multigrad 48/3000/35	≥1	≥1	≥1	≥1
	Quattro 48/5000/70-100/100	≥1	≥1	≥1	≥1
	Quattro 48/8000/110-100/100	≥1	≥1	≥1	≥1
	Quattro 48/10000/140- 100/100	≥1	≥1	≥1	≥1
	Quattro 48/15000/200- 100/100	≥1	≥1	≥1	≥1
	Easysolar 48/3000/35-50 MPPT150/70	≥1	≥1	≥1	≥1
	Easysolar 48/5000/70-100 MPPT150/100	≥1	≥1	≥1	≥1
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ V2.52					
Selectronic	SPMC480-AU	≥1	≥1	≥3	≥1
	SPMC481-AU	≥1	≥1	≥3	≥1
	SPMC482-AU	≥2	≥1	≥6	≥2
Battery firmware: BMU ≥ V1.17, BMS ≥ V1.8; Selectronic SP Link firmware ≥ 14.20.x, SP Pro firmware ≥ V12.x					
Studer	XTS1400-48	≥1	≥1	≥1	≥1
	XTM2600-48/ 4000-48	≥1	≥1	≥1	≥1
	XTH6000-48	≥1	≥1	≥1	≥1
	XTH8000-48	≥1	≥1	≥1	≥1
	VT-65/80	≥1	≥1	≥1	≥1
	VS-70/120	≥1	≥1	≥1	≥1
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ R664					
GoodWe	ES/EM/BP/SBP Series	≥1	≥1	/	/
	Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ ARM V11				
Sungrow	SH5K-30	≥1	≥1	/	/
	Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ SH5K-30_V01_V004				
SolarEdge*	SE 5 / 7 / 8 / 10 K-RWS	/	/	≥1	1
	Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ 4.11 *Multiple towers are not supported				
Solis	RHI-3K / 3.6K-48ES-5G	≥1	≥1	/	/
	RHI-4.6K / 5K / 6K-48ES-5G	≥2	≥1	/	/
	RAI-3K-48ES-5G	≥1	≥1	/	/
	Battery firmware: BMU ≥ V1.19, BMS ≥ V1.08; Solis RHI (3-6K)-48ES-5G firmware ≥ V330022, RAI-3K-48ES-5G ≥ V0B0009				
Schneider	Conext XW Pro	≥3	≥1	/	/
	Battery firmware: BMU ≥ V1.20, BMS ≥ V1.10; Inverter firmware: Gateway FW :v1.14-BN465, XW FW: 1.10				



## 2. Minimum Configuration List ON Grid + Backup

DE: Minimale Konfiguration für Notstrom// ES: Configuración mínima para sistemas energía de emergencia// IT: Configurazione minima per sistemi di alimentazione di emergenza

Compatible Inverter (1- / 3-phase)		Minimum Configuration for Single Phase		Minimum Configuration for Three Phase	
DE: Kompatibler Wechselrichter ES: Inversores compatibles IT: Inverter compatibile		DE: Minimale Konfiguration für eine Phase ES: Cantidad mínima de baterías para sistemas monofásicos a red con backup IT: Numero minimo di batterie per sistemi monofase in rete con backup		DE: Minimale Konfiguration für drei Phasen ES: Cantidad mínima de baterías para sistemas trifase a red con backup IT: Numero minimo di batterie per sistemi trifase in rete con backup	
		LVS Module	Tower (PDU)	LVS Module	Tower (PDU)
SMA	SI 4.4M	≥2	≥1	≥8	≥2
	SI 6.0H	≥4	≥1	≥12	≥3
	SI 8.0H	≥4	≥1	≥12	≥3
	Battery firmware: BMU ≥ V1.19, BMS ≥ V1.8; Inverter firmware ≥ V1.3.1.R. Please use below setting parameters for Sunny Island when working with LVS. Lower limit of deep discharge protection area prior shutdown <2%; Minimum width of deep discharge protection area: ≥8%; Area width for conserving battery state of charge: 3-5%.				
Victron	Multiplus 48/3000/35	≥2	≥1	≥5	≥2
	Multiplus 48/5000/70	≥3	≥1	≥7	≥2
	Multigrid 48/3000/35	≥2	≥1	≥5	≥2
	Quattro 48/5000/70-100/100	≥3	≥1	≥7	≥2
	Quattro 48/8000/110-100/100	≥4	≥1	≥12	≥3
	Quattro 48/10000/140- 100/100	≥5	≥2	≥15	≥4
	Quattro 48/15000/200- 100/100	≥7	≥2	≥18	≥5
	Easysolar 48/3000/35-50 MPPT150/70	≥2	≥1	≥5	≥2
	Easysolar 48/5000/70-100 MPPT150/100	≥3	≥1	≥7	≥2
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ V2.52					
Selectronic	SPMC480-AU	≥2	≥1	≥4	≥1
	SPMC481-AU	≥3	≥1	≥6	≥2
	SPMC482-AU	≥5	≥2	≥8	≥2
	Battery firmware: BMU ≥ V1.17, BMS ≥ V1.8; Selectronic SP Link firmware ≥ 14.20.x, SP Pro firmware ≥ V12.x				
Studer	XTS1400-48	≥1	≥1	≥2	≥1
	XTM2600-48	≥2	≥1	≥5	≥2
	XTM4000-48	≥3	≥1	≥8	≥2
	XTH6000-48	≥4	≥1	≥11	≥3
	XTH8000-48	≥5	≥2	≥15	≥4
	VT-65	≥1	≥1	≥1	≥1
	VT-80/ VS -70	≥2	≥1	≥2	≥1
	VS-120	≥3	≥1	≥3	≥1
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ R664					
GoodWe	ES Series	≥2	≥1	/	/
	GW3048-EM	≥1	≥1	/	/
	GW3648-EM/ GW 5048-EM/ SBP Series	≥2	≥1	/	/
	Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ ARM V11				
Sungrow	SH5K-30	≥1	≥1	/	/
	Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ SH5K-30_V01_V004				
Solis	RHI-3K / 3.6K-48ES-5G	≥1	≥1	/	/
	RHI-4.6K / 5K / 6K-48ES-5G	≥2	≥1	/	/
	RAI-3K-48ES-5G	≥1	≥1	/	/
	Battery firmware: BMU ≥ V1.19, BMS ≥ V1.08; Solis RHI (3-6K)-48ES-5G firmware ≥ V330022, RAI-3K-48ES-5G ≥ V0B0009				
Schneider	Conext XW Pro	≥4	≥1	/	/
	Battery firmware: BMU ≥ V1.20, BMS ≥ V1.10; Inverter firmware: Gateway FW :v1.14-BN465, XW FW: 1.10				



### 3. Minimum Configuration List OFF Grid Typical Use

**DE:** Minimale Konfiguration Off Grid für den typischen Gebrauch// **ES:** Configuración mínima para sistemas aislados, uso convencional// **IT:** Configurazione minima per sistemi in isola, uso tipico

Compatible Inverter (1- / 3-phase) DE: Kompatibler Wechselrichter ES: Inversores compatibles IT: Inverter compatibile		Minimum Configuration for Single Phase DE: Minimale Konfiguration für eine Phase ES: Cantidad mínima de baterías para sistemas monofásicos aisladas IT: Numero minimo di batterie per sistemi monofase in isola		Minimum Configuration for Three Phase DE: Minimale Konfiguration für drei Phasen ES: Cantidad mínima de baterías para sistemas trifase aisladas IT: Numero minimo di batterie per sistemi trifase in isola	
		LVS Module	Tower (PDU)	LVS Module	Tower (PDU)
SMA	SI 4.4M	≥2	≥1	≥8	≥2
	SI 6.0H	≥4	≥1	≥12	≥3
	SI 8.0H	≥4	≥1	≥12	≥3
	Battery firmware: BMU ≥ V1.19, BMS ≥ V1.8; Inverter firmware ≥ V1.3.1.R. Please use below setting parameters for Sunny Island when working with LVS. Lower limit of deep discharge protection area prior shutdown <2%; Minimum width of deep discharge protection area: ≥8%; Area width for conserving battery state of charge: 3-5%.				
Victron	Multiplus 48/3000/35	≥1	≥1	≥3	≥1
	Multiplus 48/5000/70	≥2	≥1	≥5	≥2
	Multigrid 48/3000/35	≥1	≥1	≥3	≥1
	Quattro 48/5000/70-100/100	≥2	≥1	≥5	≥2
	Quattro 48/8000/110-100/100	≥3	≥1	≥9	≥3
	Quattro 48/10000/140- 100/100	≥4	≥1	≥11	≥3
	Quattro 48/15000/200- 100/100	≥6	≥2	≥16	≥4
	Easysolar 48/3000/35-50 MPPT150/70	≥1	≥1	≥3	≥1
	Easysolar 48/5000/70-100 MPPT150/100	≥2	≥1	≥5	≥2
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ V2.52					
Selectronic	SPMC480-AU	≥2	≥1	≥4	≥1
	SPMC481-AU	≥2	≥1	≥5	≥2
	SPMC482-AU	≥3	≥1	≥8	≥2
	Battery firmware: BMU ≥ V1.17, BMS ≥ V1.8; Selectronic SP Link firmware ≥ 14.20.x, SP Pro firmware ≥ V12.x				
Studer	XTS1400-48	≥1	≥1	≥2	≥1
	XTM2600-48	≥1	≥1	≥3	≥1
	XTM4000-48	≥2	≥1	≥4	≥1
	XTH6000-48	≥2	≥1	≥6	≥2
	XTH8000-48	≥3	≥1	≥8	≥2
	VT-65	≥1	≥1	≥1	≥1
	VT-80	≥2	≥1	≥2	≥1
	VS-70	≥2	≥1	≥2	≥1
	VS-120	≥3	≥1	≥3	≥1
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ R664					
GoodWe	ES Series	/	/	/	/
	GW3048-EM	/	/	/	/
	GW3648-EM	/	/	/	/
	GW5048-EM	/	/	/	/
	SBP Series	/	/	/	/
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ ARM V11					
Sungrow	SH5K-30	≥1	≥1	/	/
	Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ SH5K-30_V01_V004				
Schneider	Conext XW Pro	≥4	≥1	/	/
	Battery firmware: BMU ≥ V1.20, BMS ≥ V1.10; Inverter firmware: Gateway FW :v1.14-BN465, XW FW: 1.10				



#### 4. Minimum Configuration List OFF Grid for Inrush Power Use

**DE:** Minimale Konfiguration Off Grid, für hohe Einschaltströme// **ES:** Configuración mínima para sistemas aislados para soportar picos de corriente máximos// **IT:** Configurazione minima per sistemi in isola per potenza di pico ammissibile

Compatible Inverter (1- / 3-phase) DE: Kompatibler Wechselrichter ES: Inversores compatibles IT: Inverter compatibile		Minimum Configuration for Single Phase DE: Minimale Konfiguration für eine Phase ES: Cantidad mínima de baterías para sistemas monofásicos aisladas con pico IT: Numero minimo di batterie per sistemi monofase in isola con pico		Minimum Configuration for Three Phase DE: Minimale Konfiguration für drei Phasen ES: Cantidad mínima de baterías para sistemas trifase aisladas con pico IT: Numero minimo di batterie per sistemi trifase in isola con pico	
		LVS Module (remarks for inrush use)	Tower (PDU)	LVS Module (remarks for inrush use)	Tower (PDU)
SMA	SI 4.4M	≥2 (5.5kw 3 seconds)	≥1	≥8 (3*5.5kw 3 seconds)	≥2
	SI 6.0H/8.0H	≥4 (11kw 3 seconds)	≥1	≥12 (3*11kw 3 seconds)	≥3
Battery firmware: BMU ≥ V1.19, BMS ≥ V1.8; Inverter firmware ≥ V1.3.1.R. Please use below setting parameters for Sunny Island when working with LVS. Lower limit of deep discharge protection area prior shutdown <2%; Minimum width of deep discharge protection area: ≥8%; Area width for conserving battery state of charge: 3-5%.					
Victron	Multiplus 48/3000/35	≥2 (6kw 5 seconds)	≥1	≥5 (3*6kw 5 seconds)	≥2
	Multiplus 48/5000/70	≥3 (10kw 5 seconds)	≥1	≥7 (3*10kw 5 seconds)	≥2
	Multigrad 48/3000/35	≥2 (6kw 5 seconds)	≥1	≥5 (3*6kw 5 seconds)	≥2
	Quattro 48/5000/70-100/100	≥3 (10kw 5 seconds)	≥1	≥7 (3*10kw 5 seconds)	≥2
	Quattro 48/8000/110-100/100	≥4 (16kw 5 seconds)	≥1	≥12 (3*16kw 5 seconds)	≥3
	Quattro 48/10000/140- 100/100	≥5 (20kw 5 seconds)	≥2	≥15 (3*20kw 5 seconds)	≥4
	Quattro 48/15000/200- 100/100	≥7 (25kw 5 seconds)	≥2	≥18 (3*25kw 5 seconds)	≥6
	Easysolar 48/3000/35-50 MPPT150/70	≥2 (6kw 5 seconds)	≥1	≥5 (3*6kw 5 seconds)	≥2
	Easysolar 48/5000/70-100 MPPT150/100	≥3 (10kw 5 seconds)	≥1	≥7 (3*10kw 5 seconds)	≥2
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ V2.52					
Selectronic	SPMC480-AU	≥2 (6kw 60 seconds)	≥1	≥6 (3*6kw 60 seconds)	≥2
	SPMC481-AU	≥3 (12kw 30 seconds)	≥1	≥9 (3*12kw 30 seconds)	≥3
	SPMC482-AU	≥5 (18kw 30 seconds)	≥2	≥13 (3*18kw 30 seconds)	≥4
Battery firmware: BMU ≥ V1.17, BMS ≥ V1.8; Selectronic SP Link firmware ≥ 14.20.x, SP Pro firmware ≥V12.x					
Studer	XTS1400-48	≥1 (2.8kw 5 seconds)	≥1	≥2 (3*2.8kw 5 seconds)	≥1
	XTM2600-48	≥2 (6.5kw 5 seconds)	≥1	≥5 (3*6.5kw 5 seconds)	≥2
	XTM4000-48	≥3 (10.5kw 5 seconds)	≥1	≥8 (3*10.5kw 5 seconds)	≥2
	XTH6000-48	≥4 (15 kw 5 seconds)	≥1	≥11 (3*15 kw 5 seconds)	≥3
	XTH8000-48	≥5 (21 kw 5 seconds)	≥2	≥15 (3*21 kw 5 seconds)	≥4
	VT-65	≥1	≥1	≥4	≥1
	VT-80/ VS-70	≥2	≥1	≥4	≥1
	VS-120	≥3	≥1	≥8	≥2
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ R664					
GoodWe	ES Series	≥2	≥1	/	/
	GW3048-EM	≥1	≥1	/	/
	GW3648/5048-EM	≥2	≥1	/	/
	SBP Series	≥2	≥1	/	/
Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ ARM V11					
Sungrow	SH5K-30	≥1	≥1	/	/
	Battery firmware: BMU ≥ V1.16, BMS ≥ V1.8; Inverter firmware ≥ SH5K-30_V01_V004				
Schneider	Conext XW Pro	≥4	≥1	/	/
	Battery firmware: BMU ≥ V1.20, BMS ≥ V1.10; Inverter firmware: Gateway FW :v1.14-BN465, XW FW: 1.10				

**Note for Inrush Power: Each inverter has their inrush power for off grid applications. Please make sure to consult the inverter manufacturer for the right value of correspondences.**

DE: Hinweis zu Einschaltströmen: Jeder Wechselrichter hat seine Einschaltströme für OFF-Grid Anwendungen. Bitte erkundigen Sie sich beim Hersteller des Wechselrichters nach dem richtigen Korrespondenzwert.

ES: Nota sobre los picos de corriente: Cada inversor presenta unas características distintas con respecto a los picos de corriente permitidos así que es recomendable consultar con el fabricante de inversores que la información de esta tabla es la más reciente.

IT: Note per Potenza di Pico Ammissibile: ogni inverter ha la sua Potenza di Pico Ammissibile per applicazioni in isola (Off-Grid). Consulta i valori correspondent dell'inverter usato.



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Version V1.7 Update: 2021-7-14



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- **In a single Tower system with 5 or 6 modules, the maximum load shall be no more than 12.8 kW**  
[DE] In einem System mit nur einem Turm mit 5 oder 6 Modulen darf die maximale Last nicht mehr als 12,8 kW betragen.  
[ES] En un sistema de torre única con 5 o 6 módulos, la carga máxima no debe superar los 12,8 kW  
[IT] In un singolo sistema torre con 5 o 6 moduli, il carico massimo non deve essere superiore a 12,8 kW
- **Max. 64 modules can be connected in parallel. In parallel connection, each Tower shall be no more than 4 modules.**  
[DE] max. 64 LVS Module in Parallelschaltung. In Parallelschaltung ist die maximale Modulanzahl je Turm 4 Module.  
[ES] Max. 64 módulos en conexión en paralelo. En conexión en paralelo, el número máximo de módulos por torre es de 4 módulos  
[IT] Max. 64 moduli in connessione parallela. In connessione parallela, il numero massimo di moduli per torre è di 4 moduli
- **ON-Grid with full backup power equals to OFF-Grid inrush power use. (section 4)**  
[DE] ON-Grid mit voller Notstromversorgung entspricht den Einschaltströmen für OFF-Grid Anwendungen. (Sektion 4)  
[ES] ON-Grid con energía de respaldo completa equivale al uso de sistemas aislados para soportar picos de corriente máximos. (Sección 4)  
[IT] ON-Grid con piena potenza di backup è uguale all'uso in isola per potenza di pico ammissibile. (Sezione 4)
- **Configurations marked in grey are not released yet and are not allowed to be installed yet. Those configurations are planned and might be subject to change.**  
[DE] Grau markierte Konfigurationen sind noch nicht freigegeben und dürfen noch nicht installiert werden. Diese Konfigurationen sind geplant und können sich ändern.  
[ES] Las configuraciones marcadas en gris aún no se publican y aún no se permite su instalación. Estas configuraciones están planificadas y pueden estar sujetas a cambios.  
[IT] Le configurazioni contrassegnate in grigio non sono ancora state rilasciate e non possono ancora essere installate. Tali configurazioni sono pianificate e potrebbero essere soggette a modifiche.

