



# BYD BATTERY-BOX

EFT-Systems GmbH



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    - The most flexible battery
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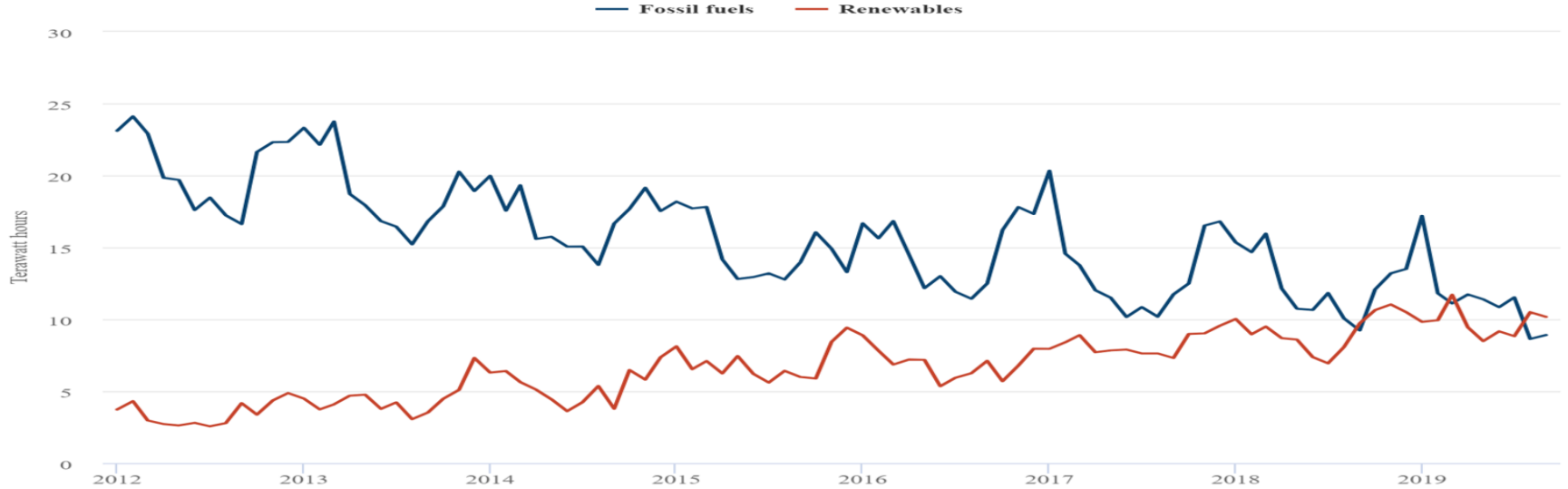


# ENERGY STORAGE MARKET POTENTIAL

# TOWARDS A WORLD OF 0 EMISSIONS

**UK renewables** generated more electricity than **fossil fuels** in August and September 2019

There have only ever been four such months, including September 2018 and March 2019



**Households to be paid for daytime green electricity use during lockdown**

**Fall in energy use combined with bright, breezy weather leads to lowest electricity prices in 10 years**

## PRIVATE ZERO EMISSION ECO SYSTEM - MOBILITY

Can you generate electricity for your own mobility?

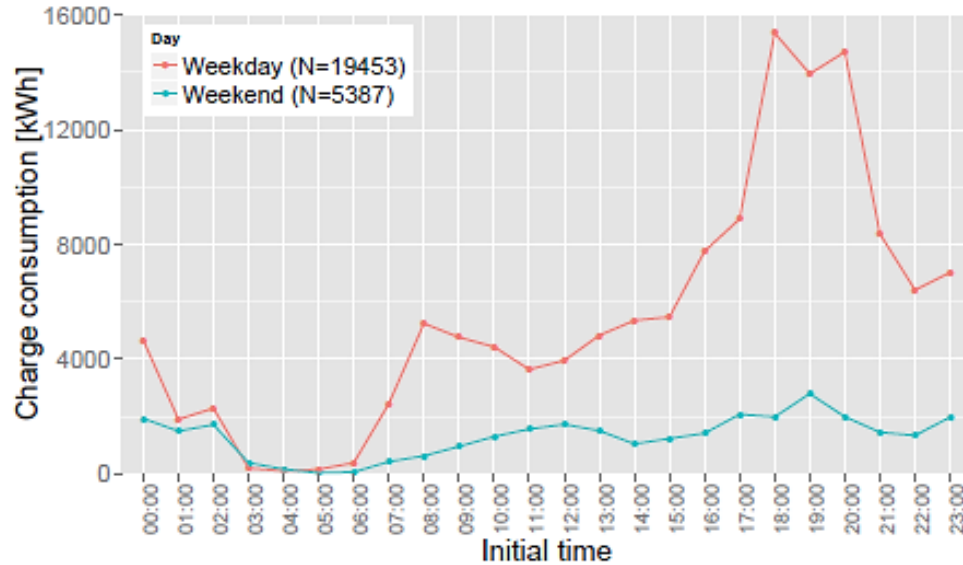
Modell	Verbrauch im ADAC Ecotest in kWh/100 km
Hyundai Ioniq Elektro Style	14,7
VW e-Golf	17,3
VW e-up!	17,7
BMW i3 (120 Ah)	17,9
Smart Fortwo Coupé EQ Prime	18,3
Opel Ampera-e First Edition	19,7
Renault Zoe Intens (41 kWh)	20,3
Tesla Model 3 Long Range AWD	20,9



How much kWh does house system deliver?

## PRIVATE ZERO EMISSION ECO SYSTEM - MOBILITY

Is the electricity generated when the vehicle is to be charged?

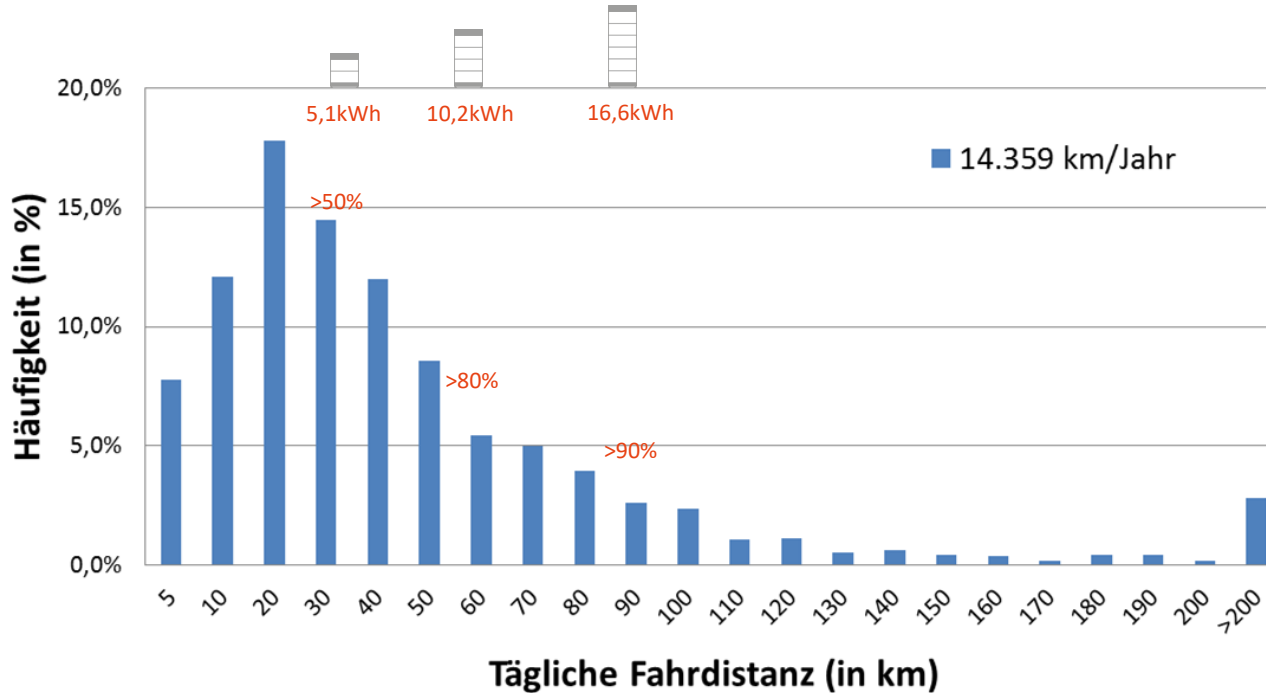


Household CPs total hourly charge consumption by day of the week

Quelle: Green eMotion. Deliverable D1.10, European global analysis on the electro-mobility performance, Version 2.0. IREC, 2015.

## PRIVATE ZERO EMISSION ECO SYSTEM - MOBILITY

Is a home storage large enough to charge an electric vehicle?



Frequency distribution of the daily driving distance with an average mileage of 14,359 km / year

Source: DLR & Infas. Mobility in Germany (MiD) 2008. In: Federal Ministry of Transport Building and Urban Development. Bonn / Berlin: BMVBS, 2010



BYD





# BYD - CHANGING THE WORLD

**Bloomberg Green**



**Automotive World** est. 1992

## BYD's new blade battery set to redefine EV safety standards

Today, BYD officially announced the launch of the Blade Battery, a development set to mitigate concerns about battery safety in electric vehicles

## **FORTUNE** CHANGE THE WORLD

### THE TOP 10

- 1 Qualcomm
- 2 Mastercard
- 3 BYD**
- 4 TE Connectivity
- 5 Walmart

## A WORLD LEADER IN ELECTROMOBILITY



# FULL VERTICAL INTEGRATION

**Mineral resources  
development**

**Process  
Development**

**BMS R&D  
Manufacture**

**Pack R&D  
Manufacture**



**Material Research  
Manufacture**

**Cell R&D  
Manufacture**

**Module R&D  
Manufacture**

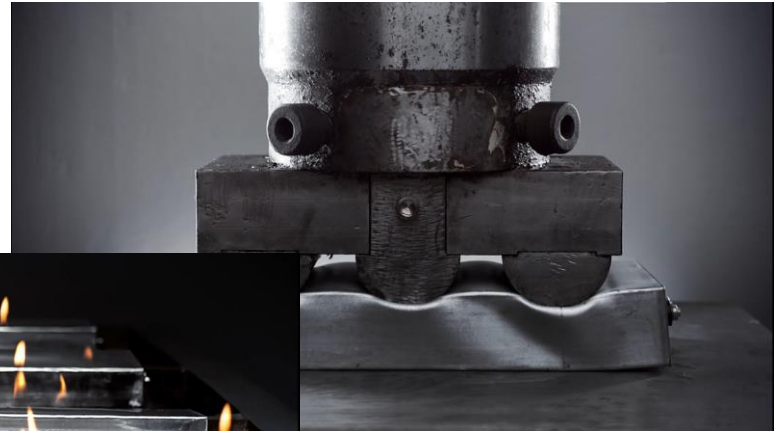
**Recycle**

From the Investment of the core mineral resources (Li, Co) companies, Core raw materials development/manufacture, Cell development/manufacture, module design/manufacture, BMS design/manufacture, to PACK design and manufacture.



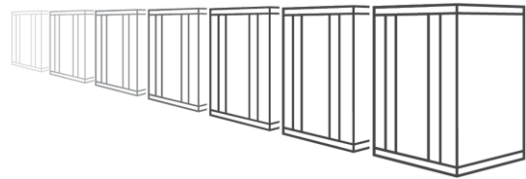
**BATTERY BOX**  
PREMIUM

## SAFETY AND RELIABILITY

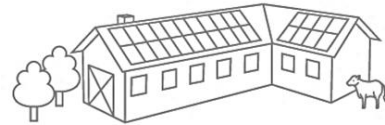


Piercing test  
(39.12min)

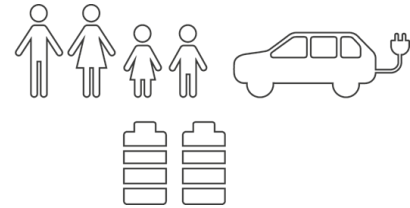
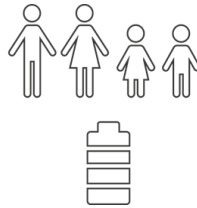
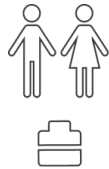
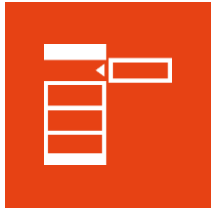
# HIGHLY SCALABLE



# FOR ANY APPLICATION

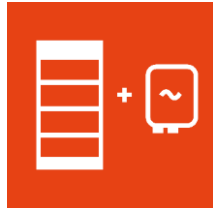


# EXPAND AT ANY TIME

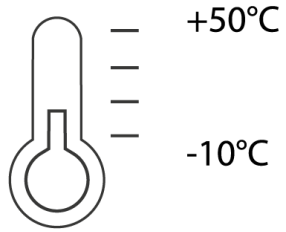




## COMBINE WITH THE BEST INVERTERS



# FOR ANY ENVIRONMENT



# HIGHEST PERFORMANCE

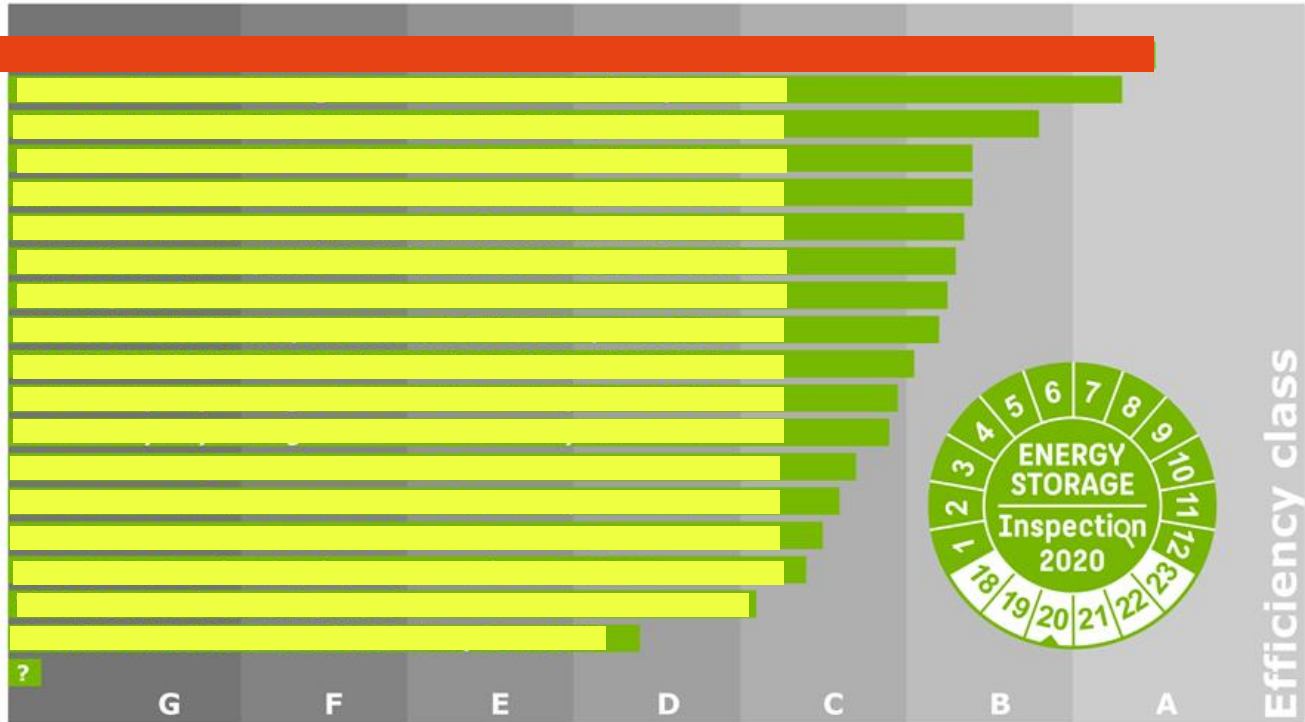
BYD Battery-Box HV

Winners since 2018

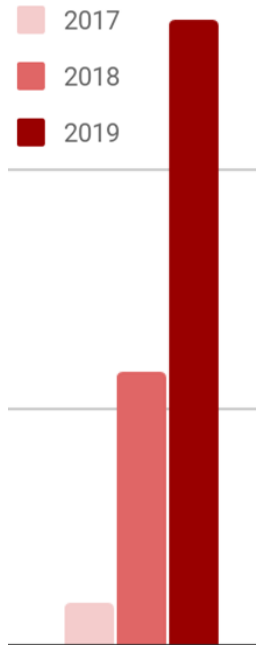
2020: BYD+Fronius

2019: BYD+Kostal

2018: BYD+SMA



## WHY A NEW GENERATION?



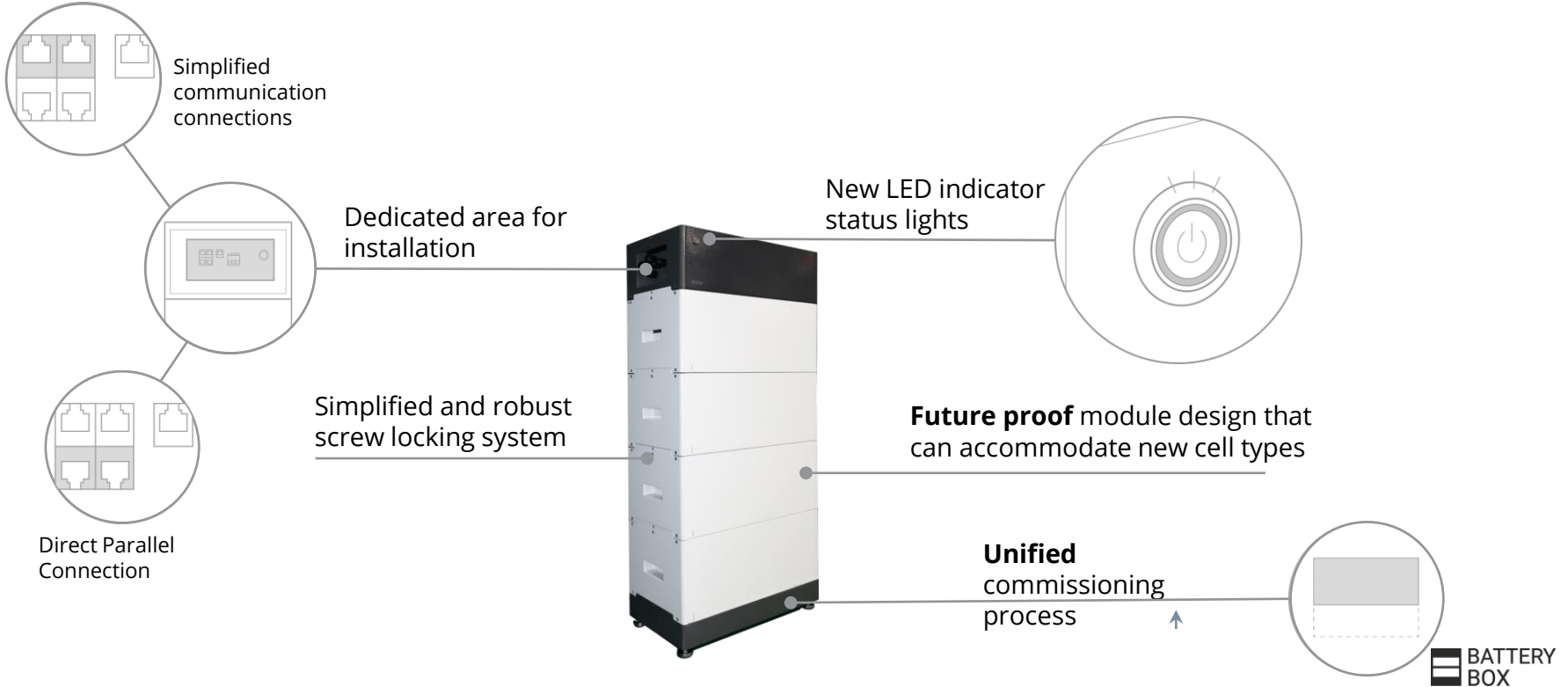
- Transfer the market feedback to the product
- New standards (e.g. VDE2510-50)
- Future proof the supply chain
- Increase production capacity

## WHAT'S NEW? MANUFACTURING



The largest and most advanced production in the sector  
To produce 10 times as many systems as 2019

# WHAT'S NEW? UNIVERSAL DESIGN



## WHAT'S NEW? - IMPROVEMENTS



### **More compact design**

Higher energy density  
Smaller footprint



### **Improved visual feedback**

Uniform LED status display



### **Easier to install**

Separate connection area for external cables  
Improved closure between modules



### **Improved technical properties**

Latest safety standards (VDE 2510-50)  
Improved performance at low temperatures and for small loads



### **Simpler and more flexible parallel connection**

Parallel connection without additional components  
Greater scalability



### **Optimized packaging**

Less material, cardboard instead of plastic  
Increased transport efficiency



### **Uniform operation**

Universal design framework  
One interface for all versions

# FAMILY REPLACEMENT GUIDE

BATTERY-BOX

**HV 200-450V**



**LV 48V**



**PRO 2.5-10.0 48V**



**PRO 13.8 48V**



BATTERY-BOX PREMIUM

**HVS 200-500V**



**2,56 kWh / module**  
**5,1-38.4 kWh**

**HVM 200-400V**



**2,76 kWh / module**  
**8,3-66,2 kWh**

**LVS 48V**



**4,0 kWh / module**  
**4,0-256 kWh**

**LVL 48V**



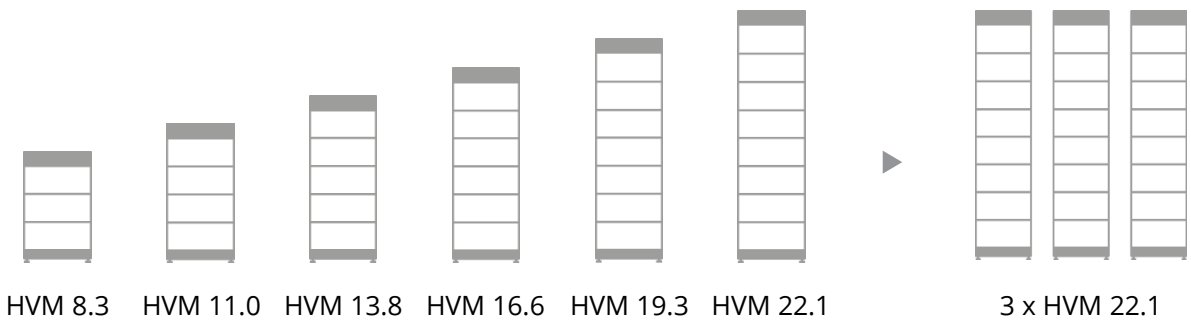
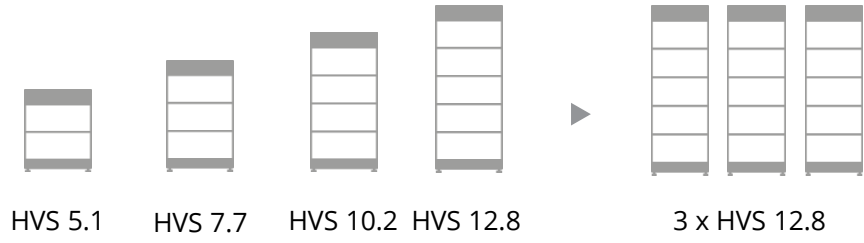
**15,36 kWh / module**  
**15,4 - 983 kWh**



HVS / HVM  
INSTALLATION



# HVS / HVM



## HVS/ HVM SPECS

The Popular Plug Design Without Cables and the Most Efficient High Voltage Technology Combined with New Advantages:

	HV	HVS	HVM
Patented Plug-In Design without Cables	✓	✓	✓
ON-Grid & Backup	✓	✓	✓
OFF-Grid	✗	✓	✓
Module	1.28 kWh 580x380x120mm, 26 kg, 51.2 V	2.56 kWh 585x298x238mm, 38 kg, 102.4 V	2.76 kWh 585x298x238mm, 38 kg, 51.2 V
Size Comparison Example	H10.2: 580 x 380 x 1254 mm	HVS 10.2: 585 x 298 x 1178 mm	HVM 11.0: 585 x 298 x 1178 mm
LED Indicator Light to Show the Status	✗	✓	✓
Capacity Range	5.1 – 11.5 kWh	5.1 – 12.8 kWh Up to 3 Direct Parallel: 38.4 kWh	8.3 – 22.1 kWh Up to 3 Direct Parallel: 65.1 kWh
Safety Standards	IEC62619 / CE / RCM / UN38.3	VDE2510-50 / IEC62619 / IEC62040 / CE / UN38.3	VDE2510-50 / IEC62619 / IEC62040 / CE / UN38.3
Cabeling to the Inverter	Open complete Top-Cover to Access BCU and Connectors	Dedicated Connection Area	Dedicated Connection Area
Port for Communication Cable to Inverter	PINs	PINs / Standard Ethernet Cable Port	PINs / Standard Ethernet Cable Port
Locking Mechanism between Modules	Hooks	Screws	Screws
Start of Temperature Derating	Below +10 °C	Below +5 °C	Below +5 °C

# COMPATIBILITY LIST

**BYD BATTERY-BOX PREMIUM HVS&HVM COMPATIBLE INVERTER LIST – V1.3**

Inverter		HVS 5.1	HVS 7.7	HVS 10.2	HVS 12.8	HVM 8.3	HVM 11.0	HVM 13.8	HVM 16.6	HVM 19.3	HVM 22.1	
Fronius*	Symo Hybrid*	-	-	-	-	✓	✓	✓	✓	✓	-	
	Primo Gen24 Plus*	✓	✓	-	-	-	✓	✓	✓	✓	-	
	Symo Gen24 Plus*	✓	✓	✓	✓	-	-	-	-	-	-	
*Planned configuration – not officially released yet. Could be subject to change												
GoodWe	ET	✓	✓	✓	✓	-	-	✓	✓	✓	✓	
	BT	✓	✓	✓	✓	-	-	✓	✓	✓	✓	
	EH	✓	✓	✓	-	-	-	-	-	-	✓	
	BH	✓	✓	✓	-	-	-	-	-	-	✓	
		HVS is a planned configuration – not officially released yet. Could be subject to change				HVM Released (CW15) Firmware: GoodWe Inverters (ARM) ≥ V11. BYD Battery-Box Premium HVM: BMU ≥ V3.7, BMS ≥ V3.16;						
KOSTAL	Plenticore Plus 3.0	✓	✓	✓	✓	-	✓	-	-	-	-	
	Plenticore Plus 4.2/5.5/7.0/8.5/10.0	✓	✓	✓	✓	-	-	✓	✓	✓	✓	
	Plenticore Bi 5.5-13, 5.5-26	✓	✓	✓	✓	-	-	-	-	✓	✓	
	Plenticore Bi 10.0-26	-	✓	✓	✓	-	-	-	-	✓	✓	
	Released (CW17) Firmware: KOSTAL Inverters ≥ 01.42. BYD Battery-Box Premium HVS & HVM: BMU ≥ 3.7, BMS ≥ 3.16											
	Piko MP Plus 1.5-1, 2.0-1, 2.5-1*	✓	✓	-	-	✓	✓	-	-	-	-	-
Piko MP Plus 3.0-1, 3.0-2, 3.5-1, 3.5-2, 4.6-2, 5.0-2*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
*Planned configuration – not officially released yet. Could be subject to change												

Version V1.3; Update: 2020-05-14

Inverter		HVS 5.1	HVS 7.7	HVS 10.2	HVS 12.8	HVM 8.3	HVM 11.0	HVM 13.8	HVM 16.6	HVM 19.3	HVM 22.1
SMA*	Sunny Boy Storage 2.5*	✓	✓	✓	-	-	✓	✓	✓	✓	✓
	Sunny Boy Storage 3.7*	✓	✓	✓	-	✓	✓	✓	✓	✓	✓
	Sunny Boy Storage 5.0*	-	✓	✓	-	-	✓	✓	✓	✓	✓
	Sunny Boy Storage 6.0*	-	✓	✓	-	-	✓	✓	✓	✓	✓
*Planned configuration – not officially released yet. Could be subject to change											
Sungrow	SH5.0/6.0/8.0/10RT	✓	✓	✓	✓	-	✓	✓	✓	✓	✓
	Released (CW20) Firmware: Sungrow Inverters ARM ≥ V11_V01_A, MDSP ≥ V11_V01_A. BYD Battery-Box Premium HVS & HVM: BMU ≥ 3.7, BMS ≥ 3.16										
KACO*	blueplanet hybrid 6.0-10.0 TL3*	✓	✓	✓	-	✓	✓	✓	✓	✓	✓
	*Planned configuration – not officially released yet. Could be subject to change										

**NOTICE**

- Maximum three battery systems could be connected in parallel. The below requirements must be fulfilled under parallel connection:
  - a) HVS system CANNOT be connected in parallel with HVM system;
  - b) Every system connected in parallel requires the same module quantity.
- Installation before official release is not allowed.
- Configurations marked in grey are not released yet and are not allowed to be installed yet. Those configurations are planned and will follow soon. The actual configuration upon official release might change.

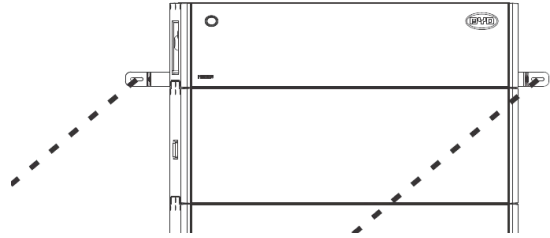
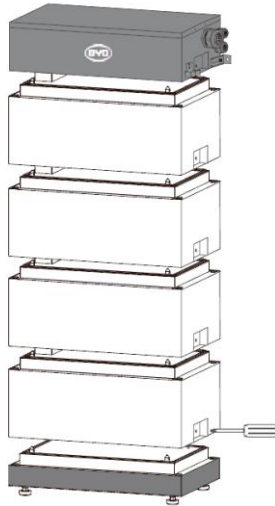
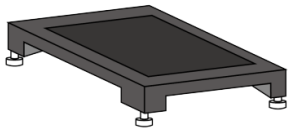
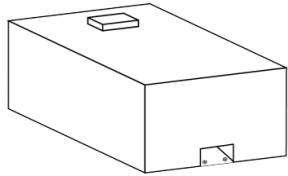
BYD Company Limited  
www.bydbatterybox.com  
Global Sales: batterybox@byd.com  
Global Service: bboservice@byd.com

Battery-Box EU Service Partner  
E7 Systems GmbH  
www.e7-systems.de  
info@e7-systems.de

Battery-Box AU Service Partner  
Alps Power Pty Ltd  
www.alppower.com.au  
service@alppower.com.au

Version V1.3; Update: 2020-05-14

# STEP 1 - CABLE-LESS ASSEMBLY



**HVS/HVM**

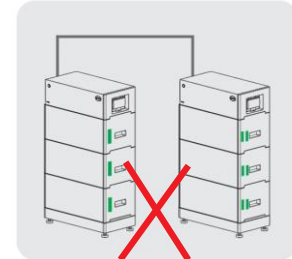
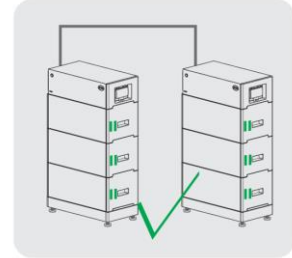
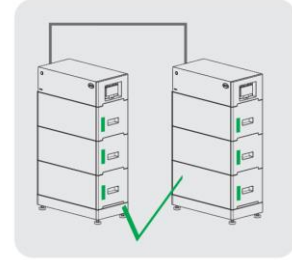
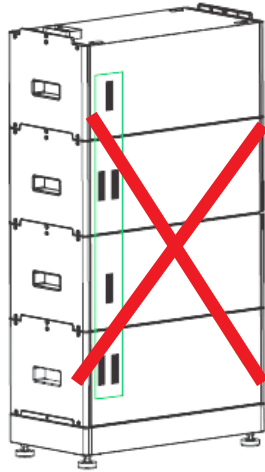
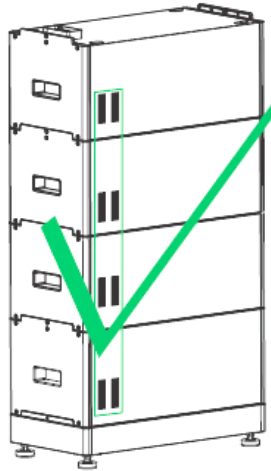
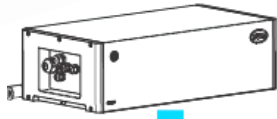


HVS 10.2



HVM 11.0

# HVS/HVM

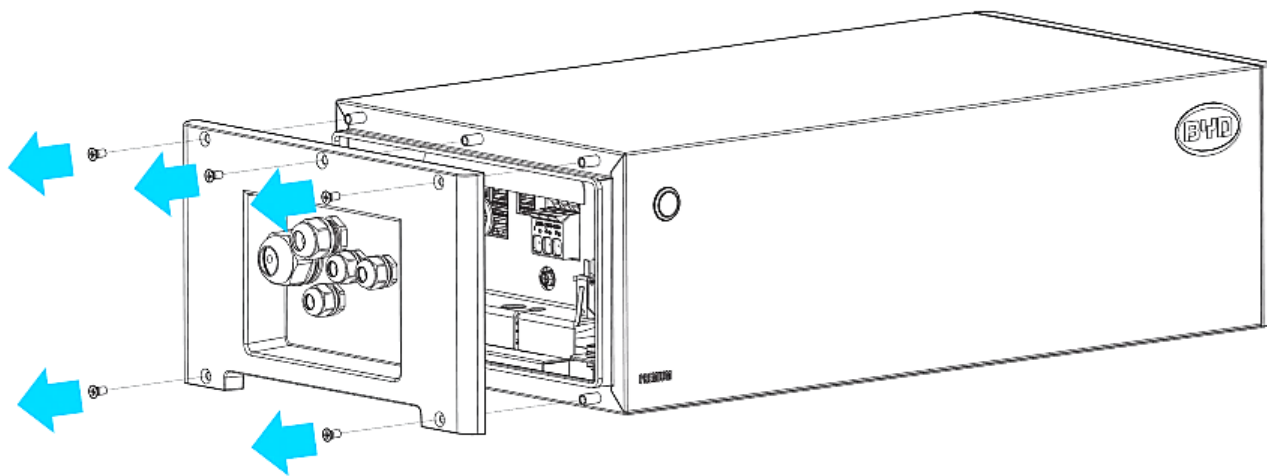


## STEP 2 – SIMPLE CONNECTIONS

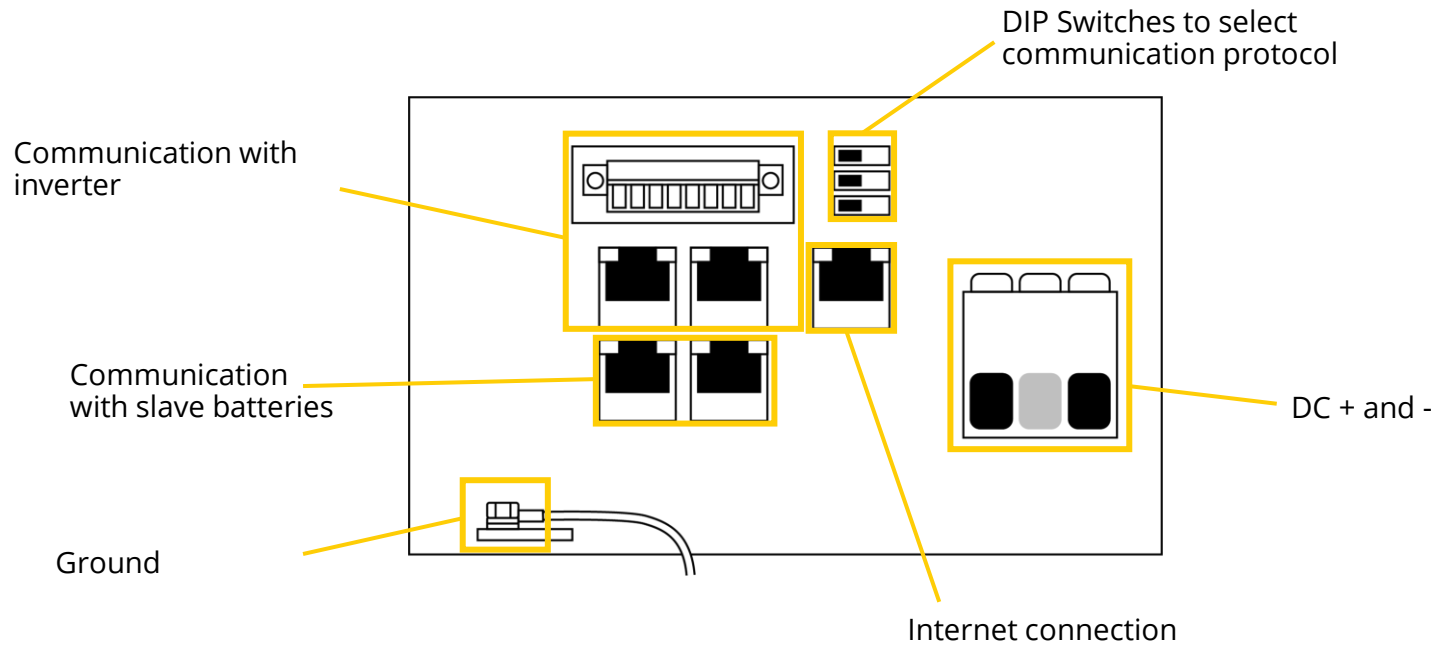




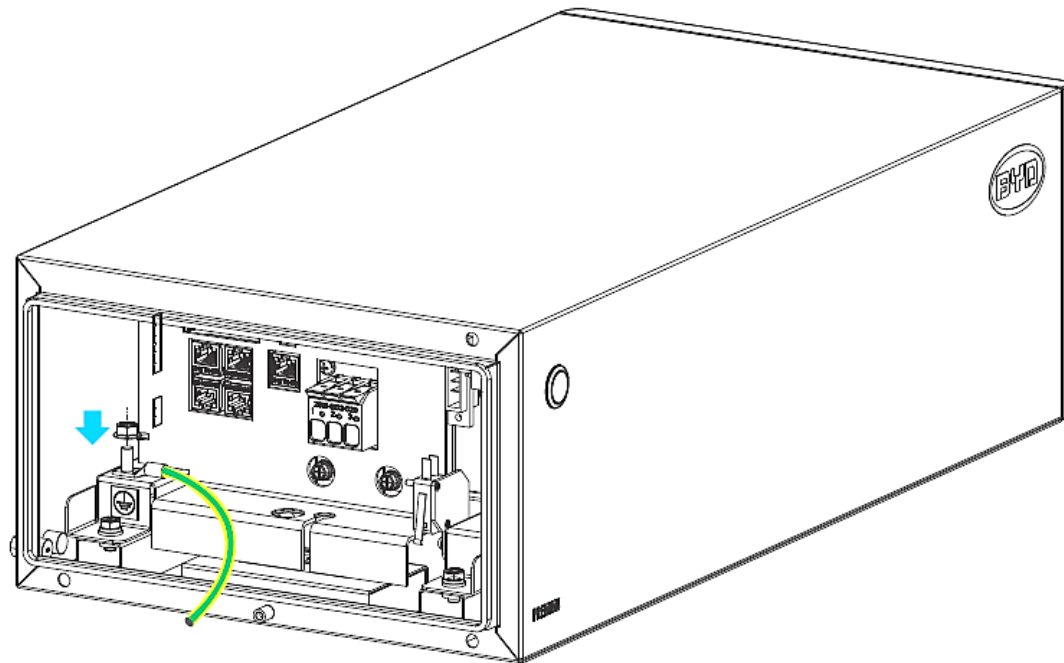
## STEP 2 – SIMPLE CONNECTIONS



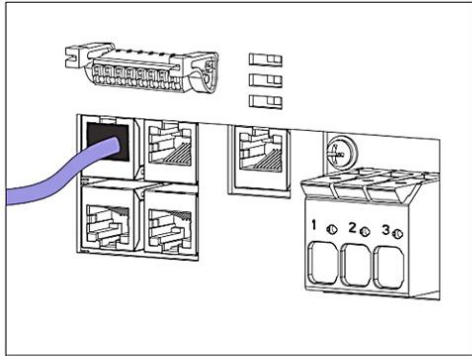
## CONNECTION AREA



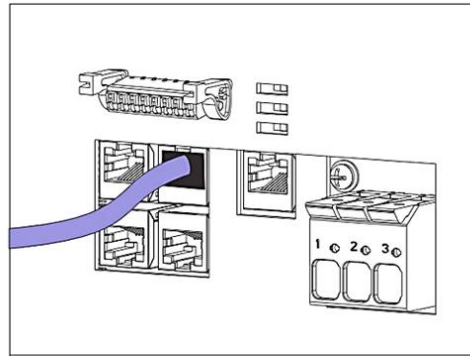
## GROUND CONNECTION



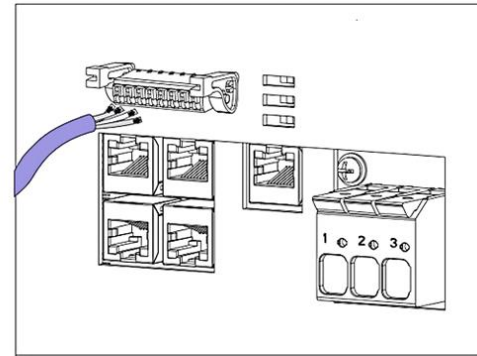
## COMMUNICATION



Option a)  
CAN

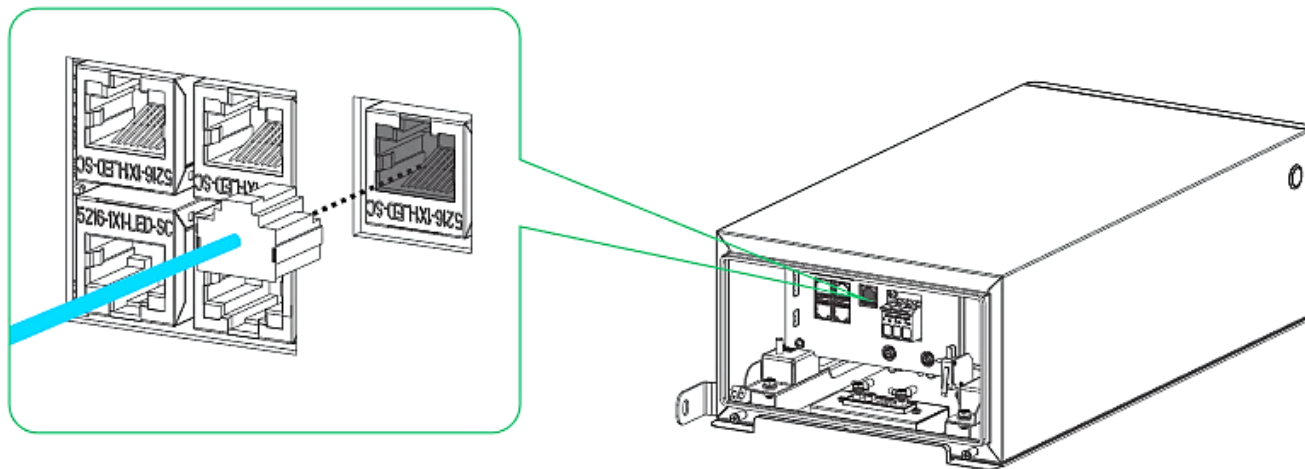


Option b)  
RS485

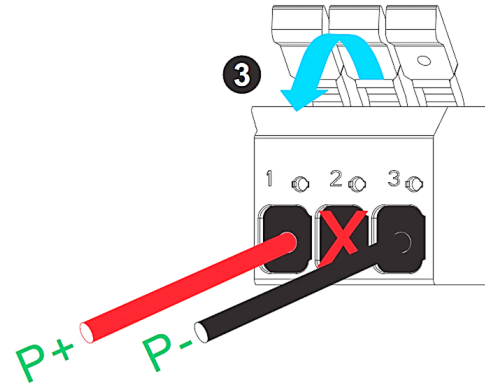
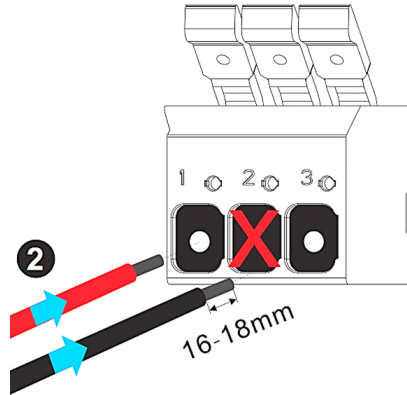
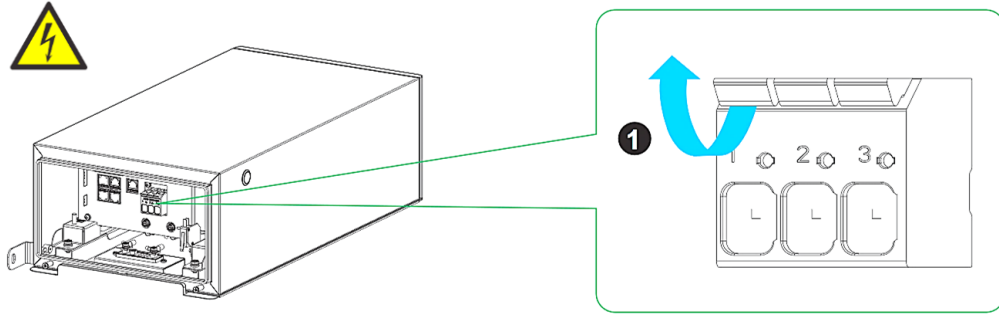


Option c)  
CAN/RS485

## INTERNET - FOR REMOTE SUPPORT

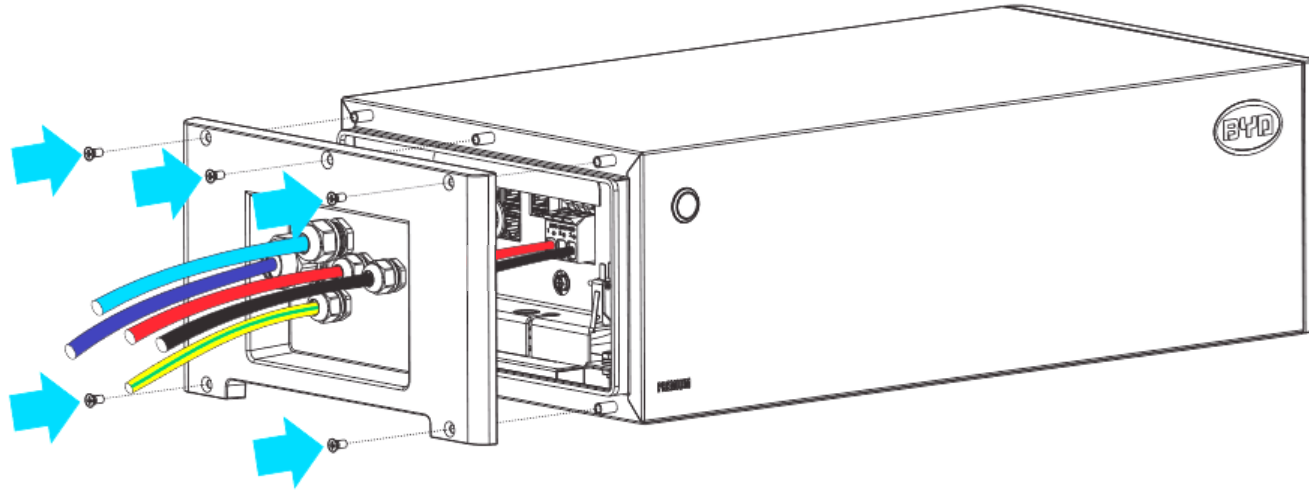


# DC CONNECTIONS

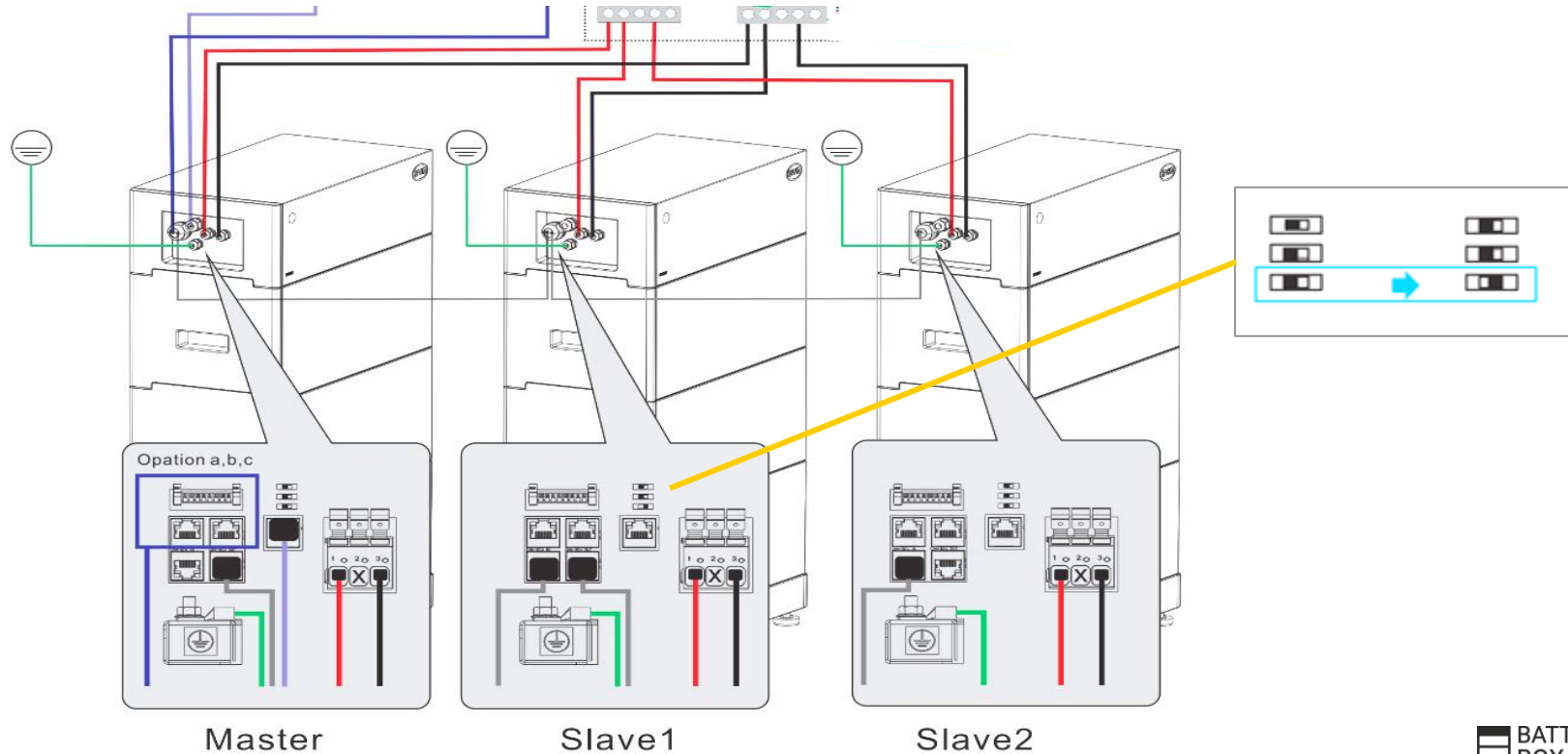


## CLOSING THE COVER

IMPORTANT: The system will NOT work unless the cover is closed securely



# HVS/HVM - INSTALLATION – PARALLEL CONNECTION





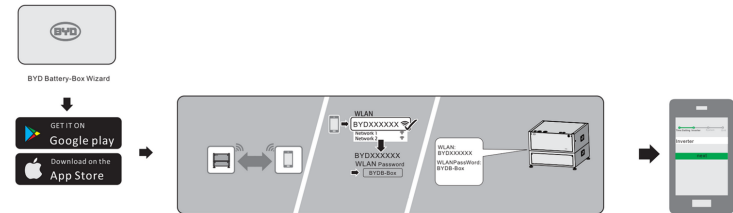
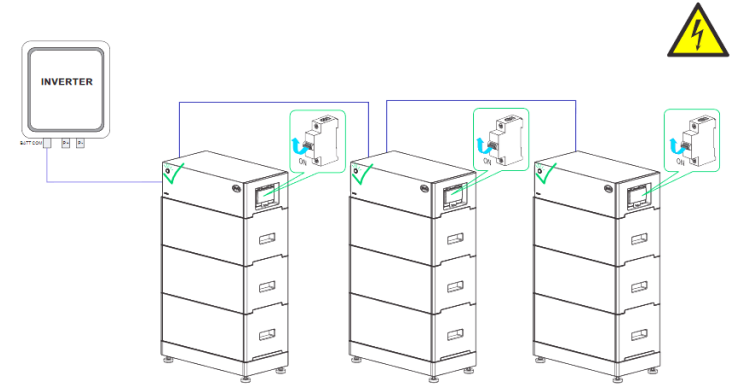
## STEP 3 - COMMISSIONING



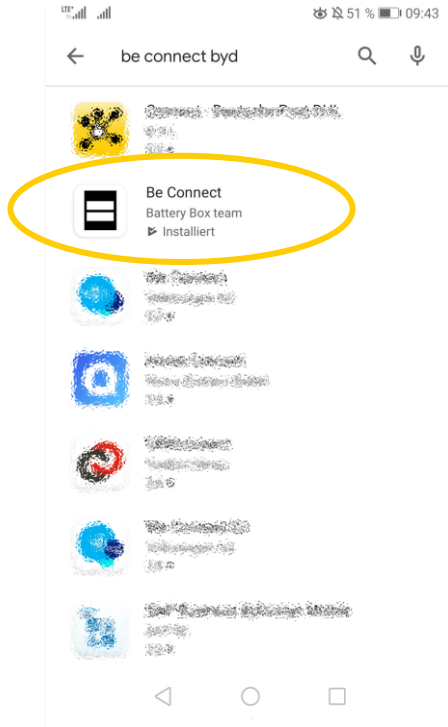
## STEP 3 - COMMISSIONING

Reihenfolge:

1. Switch on the battery
1. Using the BeConnect app setup the system
1. Switch on the inverter
1. Setup the inverter
1. The system is ready to use



# BYD BECONNECT APP



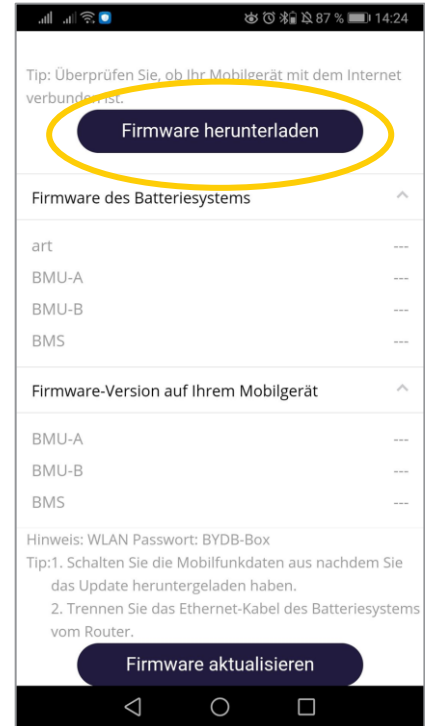
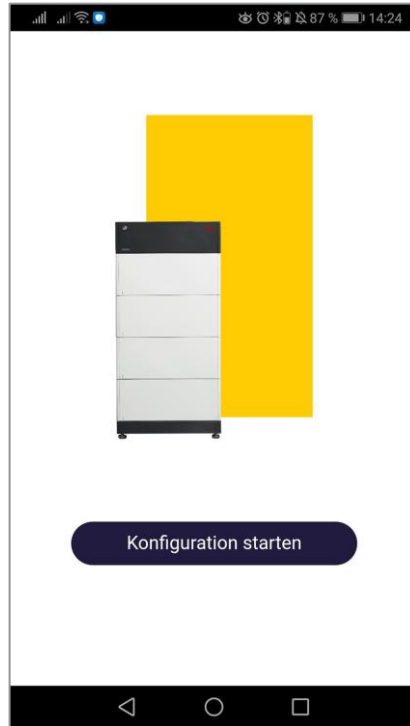
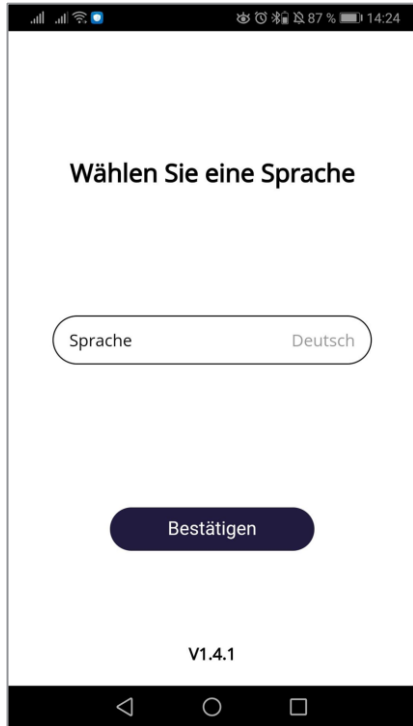
Android:



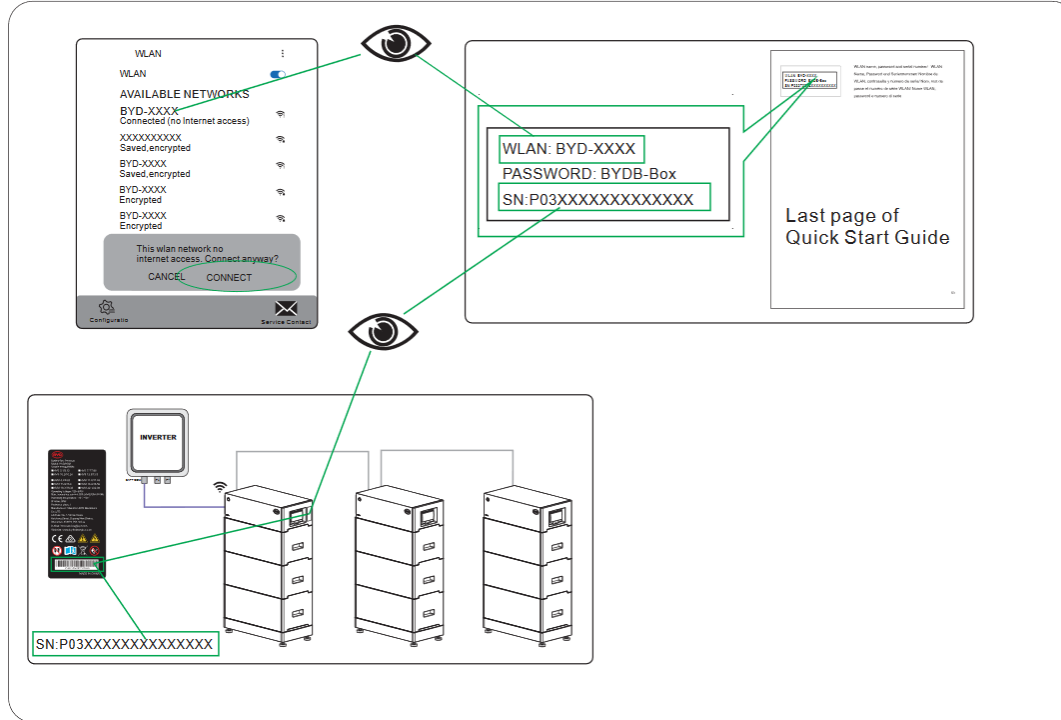
Apple:



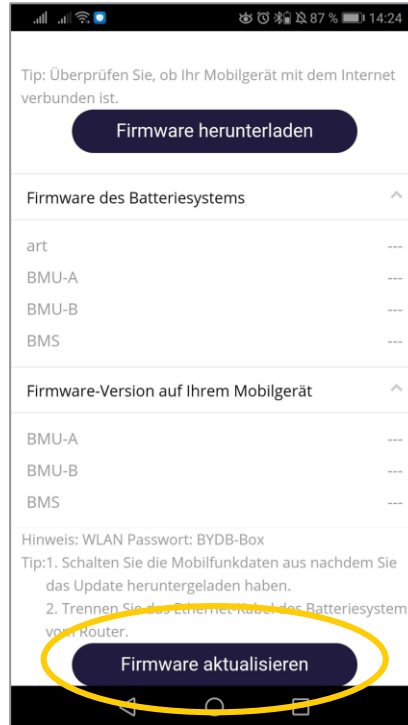
## DOWNLOAD THE LATEST FIRMWARE



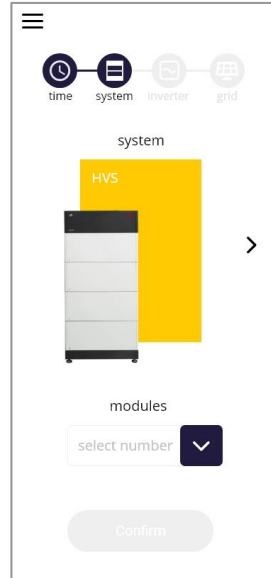
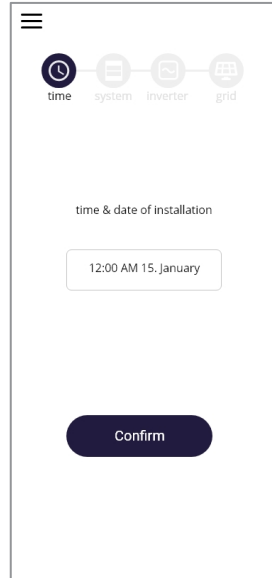
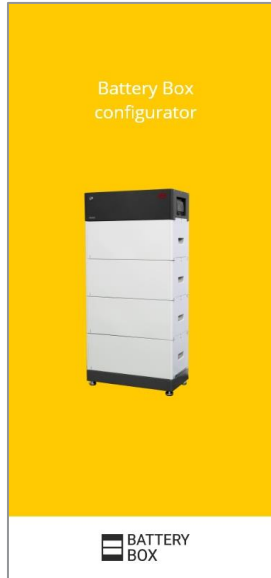
# CONNECT TO THE BATTERY WIFI



## UPDATE THE BATTERY FIRMWARE



# CONFIGURATION VIA THE BYD BECONNECT APP



# HVS/HVM – LED STATUS

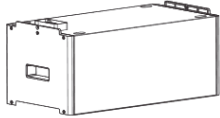
Flashing white and blue alternatively	White <input type="radio"/> ON <input type="radio"/> OFF Blue <input checked="" type="radio"/> ON <input type="radio"/> OFF		The battery system is initiating.
Glowing white	White <input type="radio"/> ON <input type="radio"/> OFF Blue <input checked="" type="radio"/> ON <input type="radio"/> OFF		Idle (the battery system is neither charging nor discharging).
Flashing white slowly	White <input type="radio"/> ON <input type="radio"/> OFF Blue <input checked="" type="radio"/> ON <input type="radio"/> OFF		The battery system is charging.
Flashing white quickly	White <input type="radio"/> ON <input type="radio"/> OFF Blue <input checked="" type="radio"/> ON <input type="radio"/> OFF		The battery system is discharging.
Flashing white and glowing blue	White <input type="radio"/> ON <input type="radio"/> OFF Blue <input checked="" type="radio"/> ON <input type="radio"/> OFF		The battery system is discharging, and the SOC is below 15%.
Flashing white and blue	White <input type="radio"/> ON <input type="radio"/> OFF Blue <input checked="" type="radio"/> ON <input type="radio"/> OFF		An error has occurred.



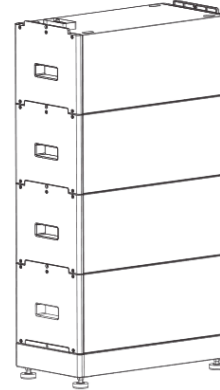
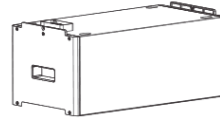
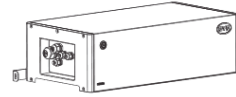
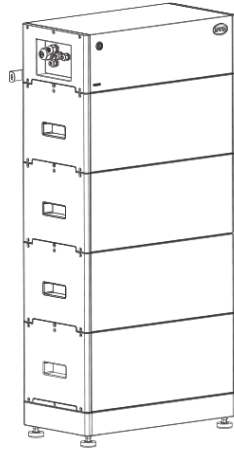


# HVS/HVM – SYSTEM EXTENSION

New Battery  
SOC = 30%



Original Battery  
SOC = 30%



+ Remember to  
commission again



# LVS INSTALLATION

# LVS



LVS 4.0



LVS 8.0



LVS 12.0



LVS 16.0



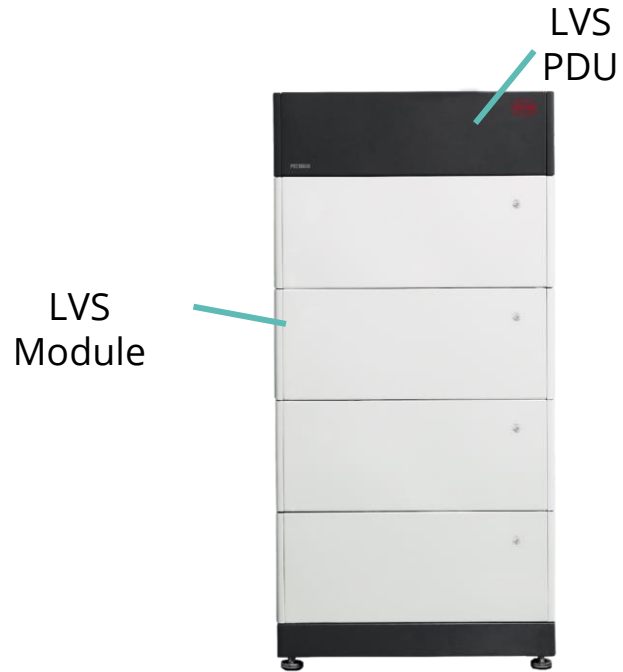
16 x LVS 16.0



## LVS SPECS

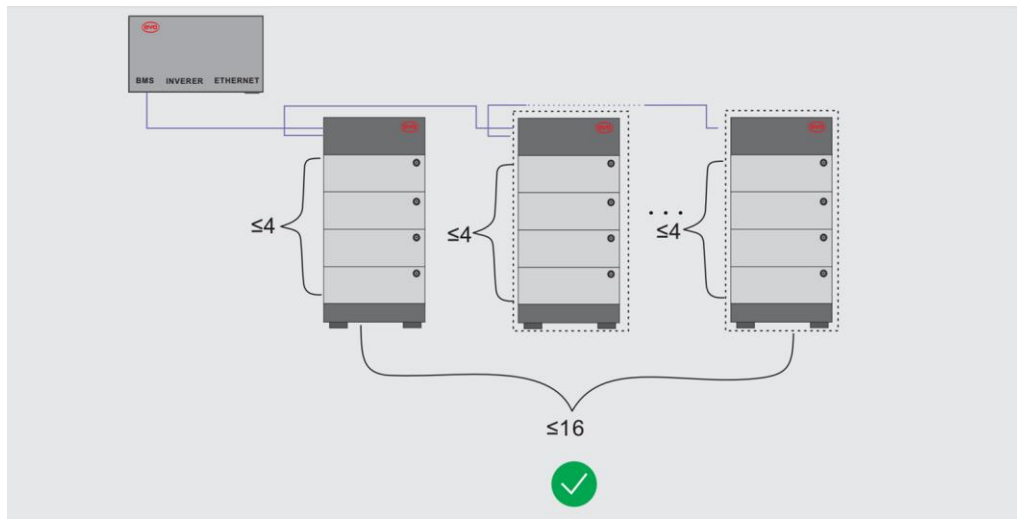
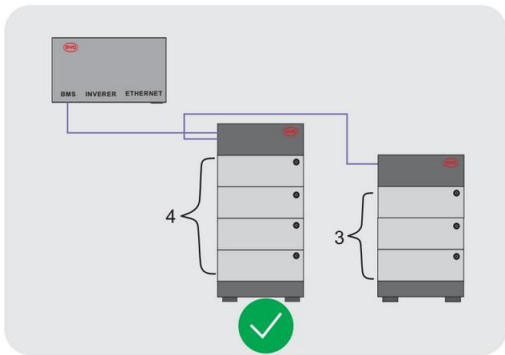
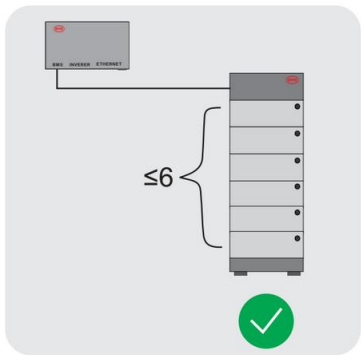
	LV	PRO 2.5-10.0	LVS
Patentiertes Plug-In-Design ohne Kabel	✓	✗	✓
ON-Grid & Not-/Ersatzstrom	✓	✓	✓
OFF-Grid	✗	✓	✓
Module	3.50 kWh 42 kg, 51.2 V	2.56 kWh 40 kg, 51.2 V	4 kWh 45 kg, 51.2 V
Größenvergleichsbeispiel	L10.5: 620 x 340 x 947 mm	PRO10.0: 600 x 510 x 883 mm	LVS 12.0: 650 x 298 x 944 mm
IP 55	✓	✗	✓
Kapazitätsbereich	3.5 - 14 kWh Parallel up to: 42 kWh	2.56 - 10.24 kWh Parallel up to: 81 kWh	4 - 24 kWh Parallel up to: 256 kWh
Temperaturabhängige Leistungsreduzierung	Derating below +12 °C	Derating below +12 °C	Derating below +5 °C

## LVS - NECESSARY COMPONENTS

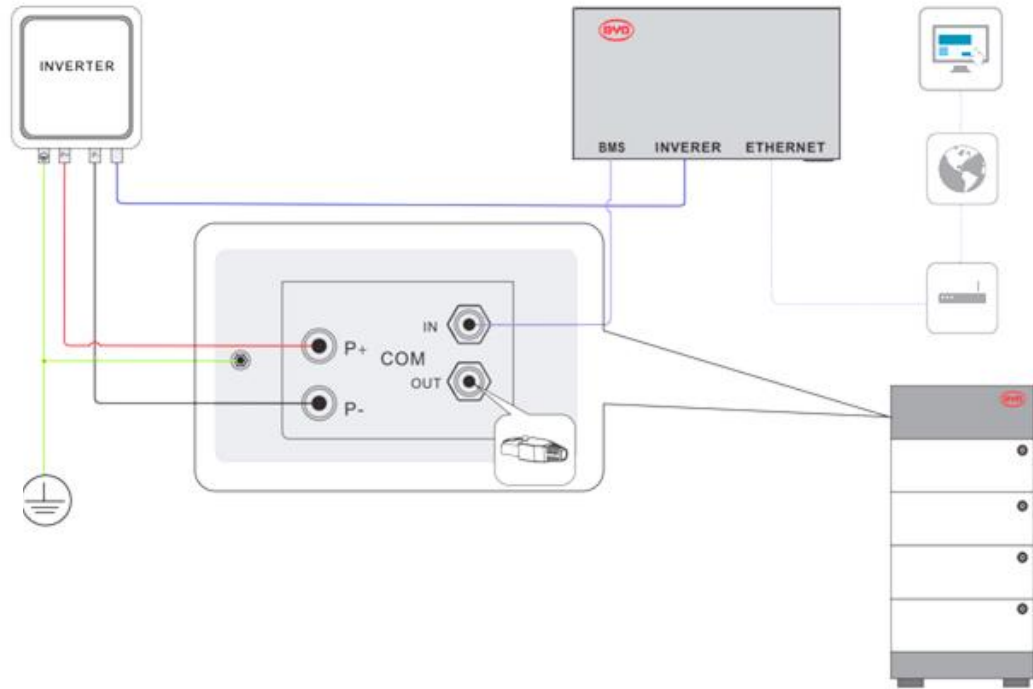


BMU -  
LVL/LVS

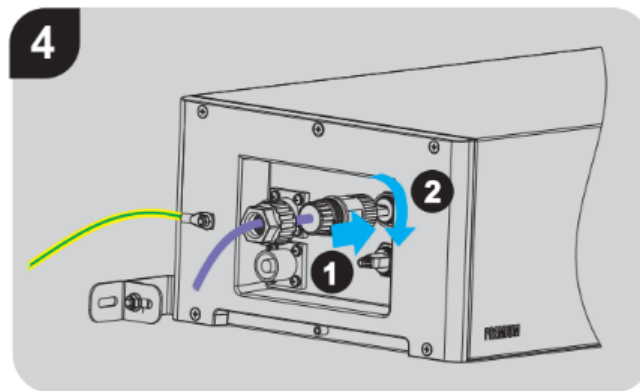
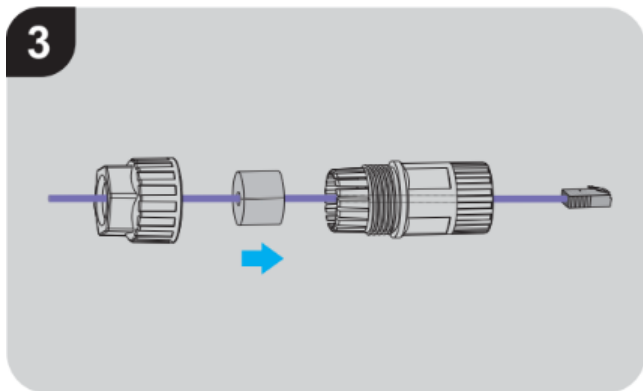
# LVS - SYSTEM DESIGN



# LVS - INSTALLATION

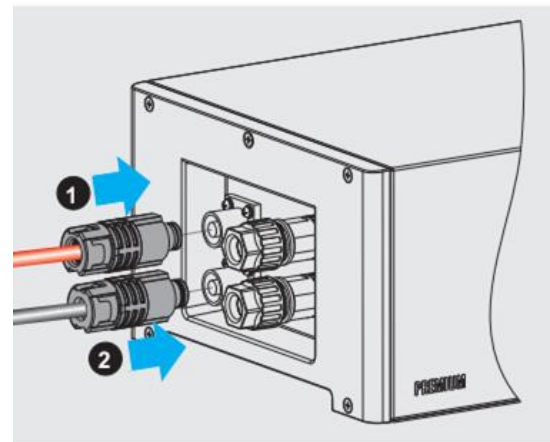
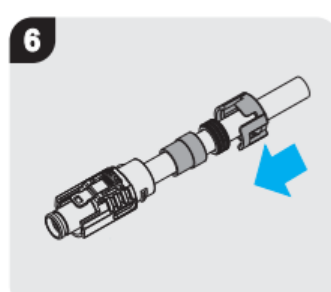
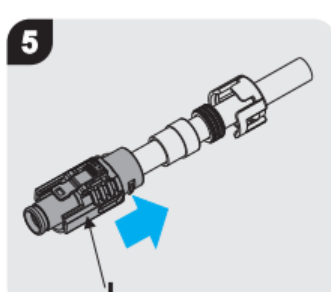
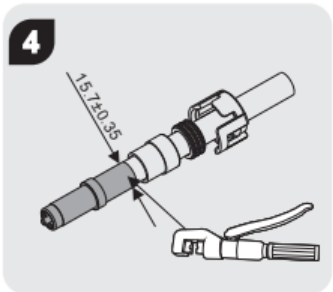
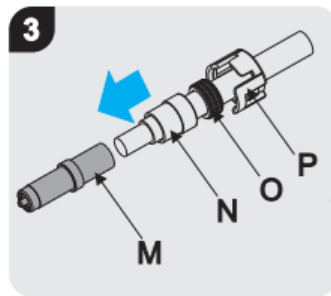
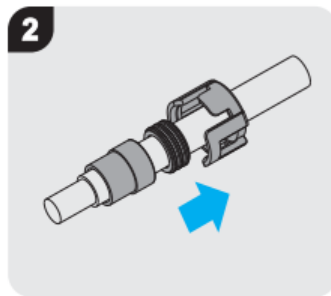
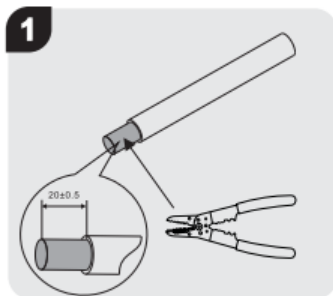


## LVS – GROUNDING AND COMMUNICATION

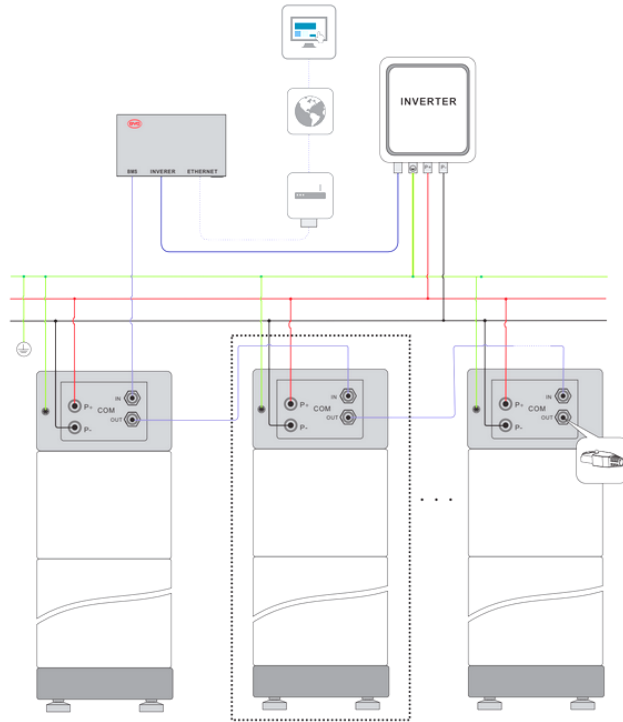




## LVS – DC CABLE



# LVS – PARALLEL

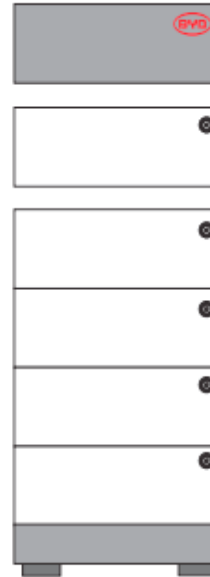
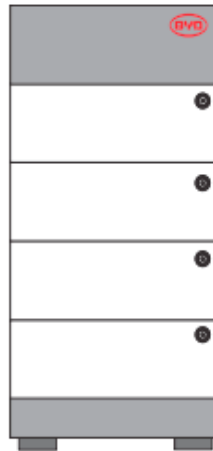


## LVS - EXTENSION (RECOMMENDED PROCEDURE)

**New Battery Module**  
SOC  $\approx$  30%



**Original Battery Module**  
SOC  $\approx$  30%



# LVL INSTALLATION



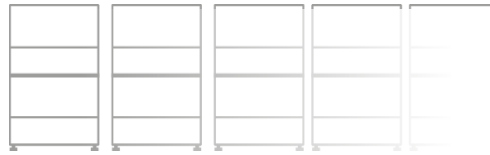
# LVL



LVL  
15.4



2 x LVL 15.4

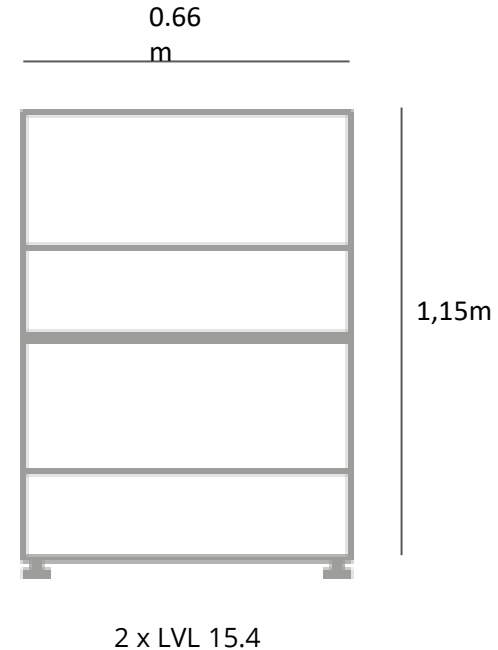


64 x LVL 15.4

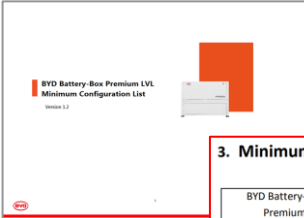


## LVL SPECS

	PRO 13.8	LVL
Remote Control	✗	✓
ON-Grid & Backup	✓	✓
OFF-Grid	✓	✓
Automatic Address Configuration	✗	✓
Size	650 x 550 x 800 mm	500 x 660 x 575 mm
Capacity Range	13.8 kWh Up to 32 Parallel: 442 kWh	15.4 kWh Up to 64 Parallel: 983 kWh
Stackable	✗	✓ Up to two Systems
Start of Temperature Derating	Below +12 °C	Below +5 °C



# COMPATIBILITY - MINIMUM CONFIGURATION



### 3. Minimum Configuration List Off Grid Single Phase

BYD Battery-Box Premium	Minimum Configuration (System Numbers)	Compatible Inverter Model	Compatible Inverter Brand	
LVL 15.4	≥ 1	SI 4.4M	SMA	
	≥ 1	SI 6.0H		
	≥ 1	SI 8.0H		
	≥ 1	Multiplus 48/3000/35		
	≥ 1	Multiplus 48/5000/70	Victron	
	≥ 1	Multigrid 48/3000/35		
	≥ 1	Quattro 48/5000/70-100/100		
	≥ 1	Quattro 48/8000/110-100/100		
	≥ 1	Quattro 48/10000/140-100/100		
	≥ 2	Quattro 48/15000/200-100/100		
	≥ 1	Easysolar 48/3000/35-50 MPPT150/70		
	≥ 1	Easysolar 48/5000/70-100 MPPT150/100		
	≥ 1	SPMC480-AU		Selectronic
	≥ 1	SPMC481-AU		
	≥ 1	SPMC482-AU		
	≥ 1	XTS1400-48		
	≥ 1	XTM2600-48	Studer	
	≥ 1	XTM4000-48		
	≥ 1	XTH6000-48		
	≥ 1	XTH8000-48		
	≥ 1	VT-65		
	≥ 1	VT-80		
	≥ 1	VS-70		
	≥ 1	VS-120		

### 6. Minimum Configuration List Off Grid Three Phase

BYD Battery-Box Premium	Minimum Configuration for Typical Power Use (System Numbers)	Minimum Configuration for Inrush Power Use (System Numbers)	Compatible Inverter Model	Remarks for Inrush Power	Compatible Inverter Brand	
LVL 15.4	≥ 1	≥ 2	SI 4.4M	5.5kw 3 seconds per inverter	SMA	
	≥ 2	≥ 3	SI 6.0H	11kw 3 seconds per inverter		
	≥ 2	≥ 3	SI 8.0H			
	≥ 1	≥ 2	Multiplus 48/3000/35	6kw 5 seconds per inverter	Victron	
	≥ 2	≥ 2	Multiplus 48/5000/70	10kw 5 seconds per inverter		
	≥ 2	≥ 2	Multigrid 48/3000/35	6kw 5 seconds per inverter		
	≥ 2	≥ 2	Quattro 48/5000/70-100/100	10kw 5 seconds per inverter		
	≥ 2	≥ 3	Quattro 48/8000/110-100/100	16kw 5 seconds per inverter		
	≥ 3	≥ 4	Quattro 48/10000/140-100/100	20kw 5 seconds per inverter		
	≥ 4	≥ 6	Quattro 48/15000/200-100/100	25kw 5 seconds per inverter		
	≥ 1	≥ 1	Easysolar 48/3000/35-50 MPPT150/70	6kw 5 seconds per inverter		
	≥ 2	≥ 2	Easysolar 48/5000/70-100 MPPT150/100	10kw 5 seconds per inverter		
	≥ 1	≥ 2	SPMC480-AU	6kw 60 seconds per inverter		Selectronic
	≥ 1	≥ 2	SPMC481-AU	12kw 30 seconds per inverter		
	≥ 2	≥ 3	SPMC482-AU	18kw 30 seconds per inverter		
	≥ 1	≥ 1	XTS1400-48	2.8kVA 5 seconds per inverter		
	≥ 1	≥ 1	XTM2600-48	6.5kVA 5 seconds per inverter	Studer	
	≥ 1	≥ 2	XTM4000-48	10.5kVA 5 seconds per inverter		
	≥ 2	≥ 3	XTH6000-48	15 kVA 5 seconds per inverter		
	≥ 2	≥ 4	XTH8000-48	21 kVA 5 seconds per inverter		
≥ 1	≥ 1	VT-65				
≥ 1	≥ 1	VT-80				
≥ 1	≥ 1	VS-70				
≥ 1	≥ 2	VS-120				

**Notice:**

- Inrush Power: Each inverter has their inrush power for off grid applications, please make sure to consult with inverter brands for the right value of correspondences.
- Maximum 64 systems in parallel connection.
- With SMA, Battery firmware: BMU ≥ V1.7, BMS ≥ V1.3, inverter firmware ≥ 1.3.1R.
- With Victron, Battery firmware: BMU ≥ V1.7, BMS ≥ V1.3, inverter firmware ≥ V2.52.
- With Studer, Battery firmware: BMU ≥ V1.9, BMS ≥ V1.3, inverter firmware ≥ R664.

## LVL – NECESSARY COMPONENTS



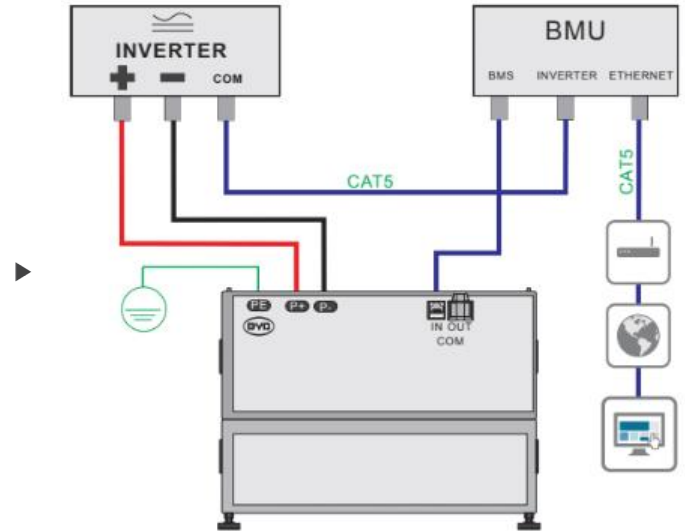
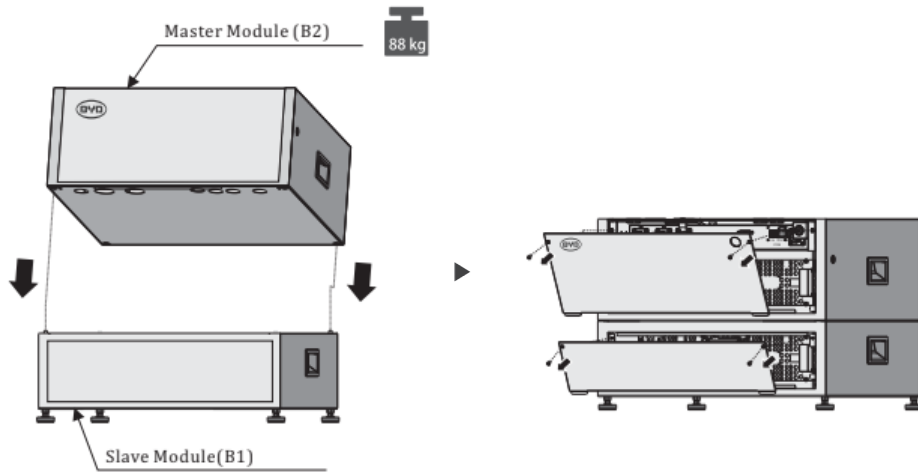
LV  
L



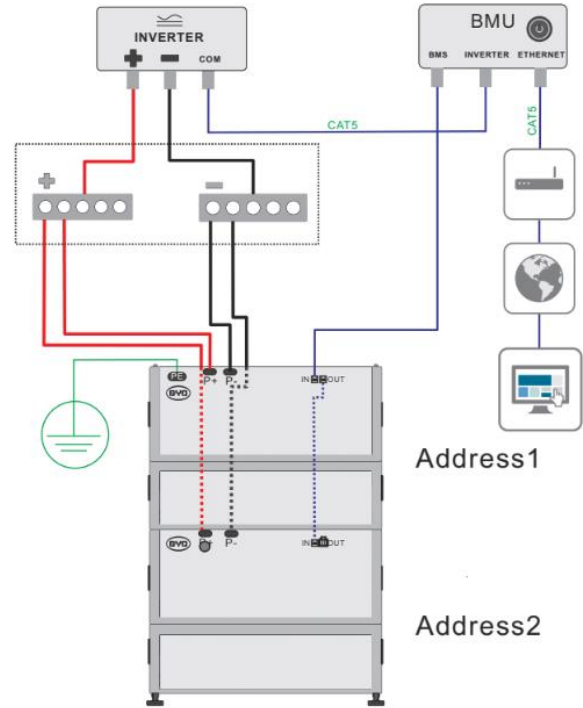
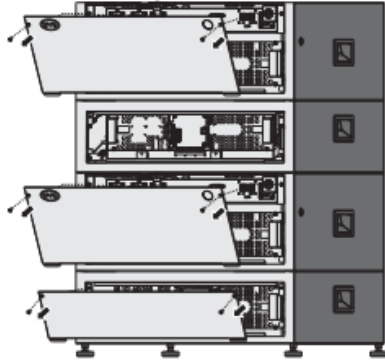
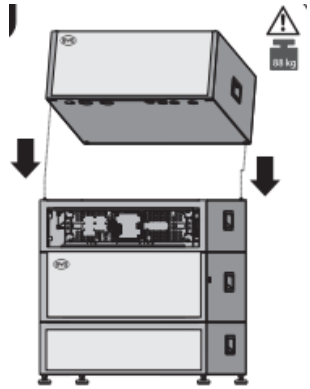
BMU -  
LVL/LVS



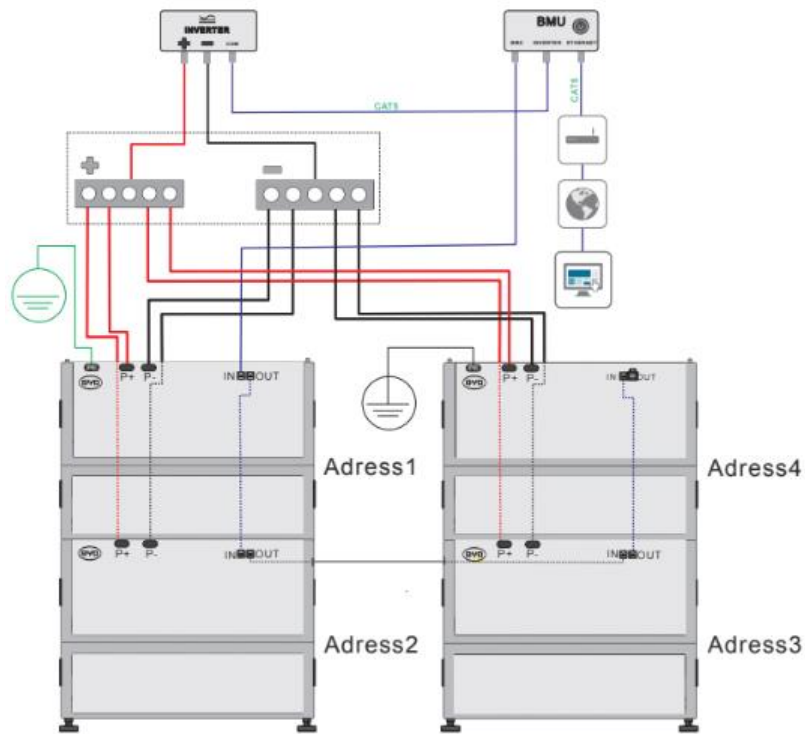
# LVL – INSTALLATION SINGLE SYSTEM



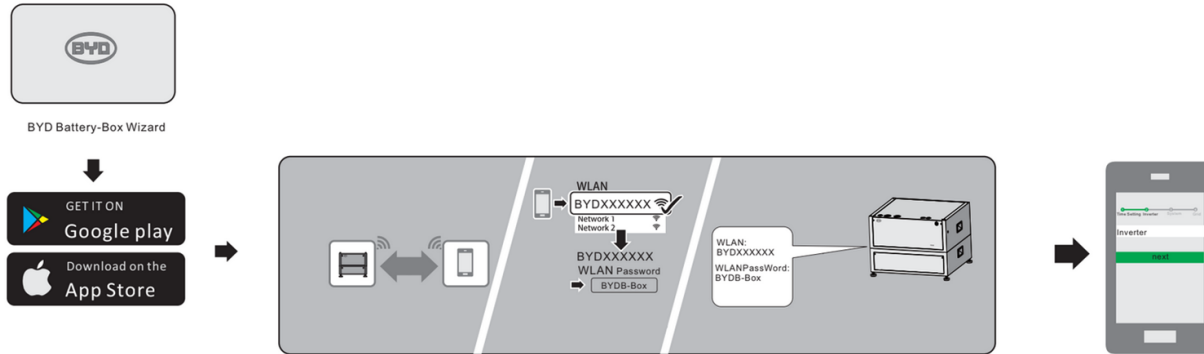
## LVL – INSTALLATION TWO SYSTEMS



# LVL – INSTALLATION MULTIPLE SYSTEMS



# LVL – INSTALLATION CONFIGURATION





SERVICE &  
SUPPORT

# WWW.EFT-SYSTEMS.DE ☒ DOWNLOADS / ONLINE SERVICE CENTER

The screenshot shows the website's navigation bar with the 'efi' logo and menu items: Home, Die B-BOX, Über Uns, Kontakt, Downloads, and Online Service Center. The main header features a large image of a 'B-BOX' manual with the word 'Downloads' overlaid. Below this, the 'DOWNLOADS' section is titled and underlined. It is divided into two main categories: 'Battery-Box HV' and 'Battery-Box Pro 13.8'. Under 'Battery-Box HV', there are four download options: 'Battery-Box HV Kurzanleitung' (represented by a document icon), 'Battery-Box HV Installationsanleitung' (represented by a document with an 'i' icon), 'Battery-Box HV Software' (represented by a gear icon), and 'Battery-Box HV Datenblatt' (represented by a document with a bar chart icon). Under 'Battery-Box Pro 13.8', there are two download options: 'Battery-Box HV Service Checkliste' (represented by a document icon) and 'Battery-Box HV Modulenweiterung' (represented by a document icon). The 'Battery-Box Pro 13.8' section also shows two more icons (a document with an 'i' icon and a document with a bar chart icon) but they are not labeled.

# SERVICE GUIDELINE



**BYD Battery-Box HV**  
**Service Guideline von EFT-Systems**  
 Version 2.0  
 Gültig für H5.1 / 6.4 / 7.7 / 9.0 / 10.2 / 11.5



Wichtig: Die Installation und Montage-Abfolge des Moduls ist an der Battery-Box HV definiert und muss strikt eingehalten werden. Die Installation der Battery-Box HV muss in einem geschlossenen, abschließbaren Schrank mit einer Schutzmaßnahme vor mechanischer Beschädigung durchgeführt werden. Die Battery-Box HV muss in einem geschlossenen, abschließbaren Schrank mit einer Schutzmaßnahme vor mechanischer Beschädigung durchgeführt werden. Die Battery-Box HV muss in einem geschlossenen, abschließbaren Schrank mit einer Schutzmaßnahme vor mechanischer Beschädigung durchgeführt werden. Die Battery-Box HV muss in einem geschlossenen, abschließbaren Schrank mit einer Schutzmaßnahme vor mechanischer Beschädigung durchgeführt werden.

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## 1. INSTALLATION PRÜFEN

Bitte prüfen Sie vor jeder Montage die Schritte der Montageanleitung.

No.	Name	Bearbeitung
1	Montageort vorinstalliert	Prüfen Sie vor jeder Arbeit die Verbindung zwischen Batteriebox und dem Anschlusskasten. Die Batteriebox muss fest mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
2	Verbindungen	Prüfen Sie die Verdrahtung der Batteriebox. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
3	Einbaubehälter prüfen	Überprüfen Sie die Größe und die Position des Einbaubehälters. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
4	Kabelmanagement	Prüfen Sie das Kabelmanagement. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
5	Prüfung	Prüfen Sie die Batteriebox vor der Montage. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
6	Installation in den Einbaubehälter	Prüfen Sie die Installation in den Einbaubehälter. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
7	Einbaubehälter verschließen	Prüfen Sie das Verschließen des Einbaubehälters. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
8	Prüfung des Einbaubehälters	Prüfen Sie die Prüfung des Einbaubehälters. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
9	Prüfung des Einbaubehälters	Prüfen Sie die Prüfung des Einbaubehälters. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
10	Prüfung des Einbaubehälters	Prüfen Sie die Prüfung des Einbaubehälters. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.

## 2. FEHLERANALYSE

Bitte prüfen Sie die folgenden Schritte vor dem Starten des Systems:

No.	Name	Bearbeitung
2.1	BCU lässt sich nicht einschalten	Prüfen Sie die Verbindung zwischen BCU und dem Anschlusskasten. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
2.2	BCU Sicherungsschalter fällt nach wenigen Sekunden	Prüfen Sie die Verbindung zwischen BCU und dem Anschlusskasten. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
2.3	Current Alarm: BatteryConnect	Prüfen Sie die Verbindung zwischen BatteryConnect und dem Anschlusskasten. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.
2.4	Current Alarm: ModuleConnect	Prüfen Sie die Verbindung zwischen ModuleConnect und dem Anschlusskasten. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.

4

## 2.10 Spannung messen

ACHTUNG: Hochspannung!  
 Die Hochspannung wird nur durch eine Hochspannung der Hochspannung mit HV und sollte immer im Bereich 300V bis 400V sein.



Bitte die gemessene Spannung mit dem Wert des Herstellers vergleichen. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.



7

## 2.13 Fehlerhafter Modul Identifizieren (Verluste 2)

Wichtig: Die Batteriebox muss immer mit der Batteriebox verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.

1. Prüfen Sie die Batteriebox auf eine defekte Hochspannung. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.




NOTICE:  
 Die Batteriebox muss immer mit der Batteriebox verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein. Die Batteriebox muss mit dem Anschlusskasten verbunden sein.



8

https://support.eft-systems.de



Please Sign in

Email

Password

[Forgot password?](#)

Login

New User, [Sign Up Here](#)



# ONLINE SERVICE CENTER - HOME

The screenshot shows the home page of the Eft-Systems Online Service Center. At the top left is the Eft logo, which consists of the letters 'eft' in a stylized font with a green leaf-like shape above the 'e' and an orange plug-like shape below the 't'. To the right of the logo is a dark grey navigation bar containing the word 'Home' and a breadcrumb trail 'Home'. In the top right corner of the page, there are icons for a menu and a user profile. On the left side, there is a vertical navigation menu with an orange header 'Home' and several menu items: 'BePartner', 'Your Systems', 'Your Tickets', 'Colleagues', 'Tips', 'Downloads', and 'Contact'. Below this menu is a 'Need Help' section with a speech bubble icon, a phone number '+49 9352 8523999', and an email address 'info@eft-systems.de'. At the bottom of the left sidebar, there is a 'Data Policy' link, a copyright notice 'Copyright © 2019', and the company name 'Eft-Systems'. The main content area features eight large icons arranged in a 2x4 grid, each with a corresponding text label below it: 'BePartner' (two overlapping server racks), 'Systems' (a server rack with a document icon), 'Tickets' (a ticket stub), 'Invite colleagues' (three people icons with a plus sign), 'Tips' (a lightbulb inside a speech bubble), 'Downloads' (a large downward arrow), 'Contact' (an envelope and a telephone handset), and 'My profile' (a simple person icon).

## ONLINE SERVICE CENTER – NEW SYSTEMS

### ADD NEW BATTERY-BOX SYSTEM

---



Battery-Box Premium HVS

Battery-Box Premium HVL



Battery-Box LVS



Battery-Box LVL

# EXTENSION REQUEST

1.

**Register the system**

@ <https://support.eft-systems.de/login>

2.

**Submit an extension request**

@ <https://support.eft-systems.de/login>

3.

**Receive the extension ID**

by E-Mail

4.

**Order from your distributor**

with this „Extension ID“



READY FOR ANY  
APPLICATION

## Small Residential On Grid



## Small Residential Off grid



## Large Residential On Grid



Charge Point type and power output	Likely installation location	Approximate connection lead-time	Network considerations	Approximate connection cost
Slow up to 3kW	Domestic	Immediate	None	None
Fast 3.7kW	Domestic or street side	Immediate in most cases	Usually none	Usually none
Fast 7kW	Domestic or street side	4 to 8 weeks	Likely upgrade to service cable and local mains	£1,000 to £3,000
Fast 22kW	Street side or public charging location	8 to 12 weeks	Streetworks and permissions	£3,500 to £12,000
Rapid 43kW	Public charging location	8 to 12 weeks	Streetworks and permissions	£3,500 to £12,000
Super 130kW or multiple rapid chargers	Public charging location	16 weeks	Streetworks, permissions and cost of land for transformer	£70,000 to £120,000

Source: Western Power Distribution Electric vehicle strategy

# Large Residential Off Grid





## Commercial On Grid (Three Phase)



## Commercial Off Grid (Three phase)



## A world of opportunities



COMING SOON BATTERY-BOX COMMERCIAL





THANK YOU FOR YOUR  
ATTENTION