



# BATTERY STORAGE SOLUTION

with Fronius GEN24 Plus and  
BYD Battery Box Premium HVS/HVM



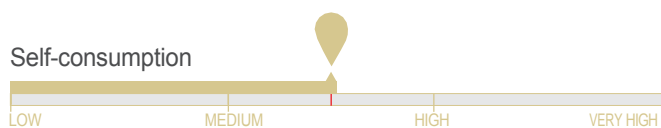
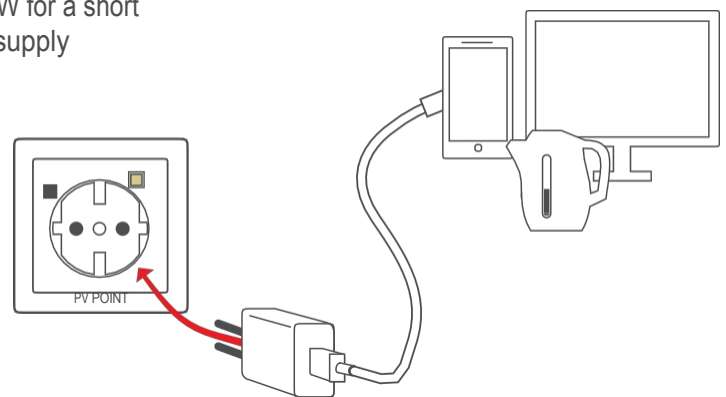
## ALL ADVANTAGES AT A GLANCE:

- / Use of PV energy even at night
- / Demand-oriented emergency power variants
- / Simultaneous supply of the consumers and charging of the battery also possible in case of emergency power supply
- / High self-consumption and self-sufficiency rates

- 1 Fronius inverter
- 2 Fronius Smart Meter
- 3 BYD Battery Box Premium HVS/HVM

## ONBOARD BASIC EMERGENCY POWER SUPPLY WITH PV POINT:

- / Single-phase loads in the household up to 3 kW (4.1 kW for a short time) can be supplied in case of emergency power supply
- / No complex additional installations necessary
- / Automatic activation in case of power failure



\* The test for the 2020 electricity storage inspection was still carried out with the BYD Battery-Box HV.

\*\* depending on the heat preparation in the household.

## COMPATIBILITIES AND MAXIMUM CHARGE/DISCHARGE CAPACITIES:

BYD BATTERY-BOX PREMIUM								
MAXIMUM CHARGING/DISCHARGING POWER WITH GEN24 PLUS [KW]	HVS			HVM				
	HVS 5.1	HVS 7.7	HVS 10.2	HVM 11.0	HVM 13.8	HVM 16.6	HVM 19.3	HVM 22.1
Primo GEN24 3.0 Plus	3,11	3,11	-	3,11	3,11	3,11	3,11	-
Primo GEN24 3.6 Plus	3,81	3,81	-	3,81	3,81	3,81	3,81	-
Primo GEN24 4.0 Plus	4,14	4,14	-	4,14	4,14	4,14	4,14	-
Primo GEN24 4.6 Plus	4,51	4,75	-	4,51	4,75	4,75	4,75	-
Primo GEN24 5.0 Plus	4,51	5,17	-	4,51	5,17	5,17	5,17	-
Primo GEN24 6.0 Plus	4,51	6,20	-	4,51	5,63	6,20	6,20	-
Symo GEN24 3.0 Plus	2,56	3,15	3,15	2,56	3,15	3,15	3,15	3,15
Symo GEN24 4.0 Plus	2,56	3,84	4,18	2,56	3,20	3,84	4,18	4,18
Symo GEN24 5.0 Plus	2,56	3,84	5,20	2,56	3,20	3,84	4,48	5,20
Symo GEN24 6.0 Plus	4,51	6,22	6,22	4,51	5,63	6,22	6,22	6,22
Symo GEN24 8.0 Plus	4,51	6,76	8,26	4,51	5,63	6,76	7,88	8,26
Symo GEN24 10.0 Plus	4,51	6,76	9,01	4,51	5,63	6,76	7,88	9,01

## PARALLEL OPERATION GEN24 PLUS AND BYD BATTERY-BOX PREMIUM HVS/HVM:

Due to the cascability of the BYD Battery-Box Premium HVS/HVM, up to 3 batteries can be operated in parallel on one GEN24 Plus. The advantage of operating multiple storage units in parallel is that high capacities can be achieved. Thus, even small COMMERCIAL systems can be realized with the combination of GEN24 Plus and BYD Battery-Box Premium HVS/HVM.

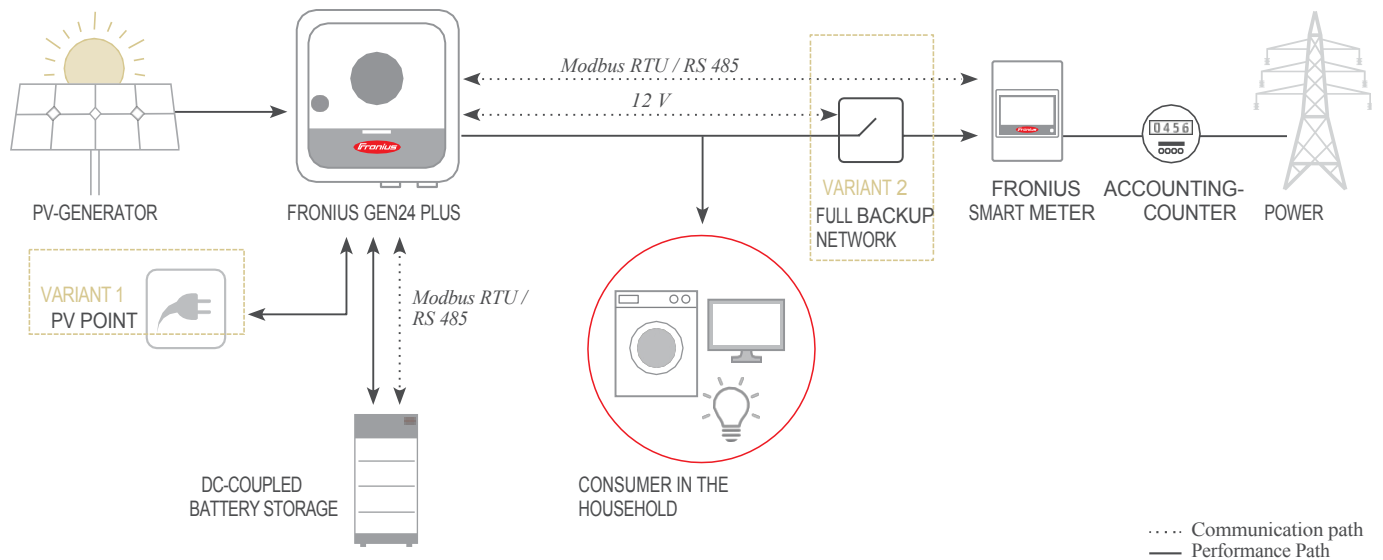
THE FOLLOWING TABLE SHOWS THE POSSIBLE COMBINATIONS ACCORDING TO THE TYPE OF INVERTER AND THE TYPE OF STORAGE:

BYD BATTERY-BOX PREMIUM									
	HVS			HVM					
	2x / 3x HVS 5.1	2x / 3x HVS 7.7	2x / 3x HVS 10.2	2x / 3x HVM 11.0	2x / 3x HVM 13.8	2x / 3x HVM 16.6	2x / 3x HVM 19.3	2x HVM 22.1	3x HVM 22.1
Symo GEN24 Plus	✓	✓	✓	✓	✓	✓	✓	✓	-
Primo GEN24 Plus	✓	✓	-	✓	✓	✓	✓	-	-

Parallel operation increases the capacity of the battery, yet the charge and discharge rates remain the same as when operating a battery.

Please also observe the BYD specifications for parallel operation of the BYD Battery-Box Premium HVS/HVM. National regulations of the grid operator or other circumstances may require a residual current circuit breaker in the AC connection line. In this case, Fronius recommends using a RESIDUAL current circuit breaker suitable for frequency inverters with a tripping current of at least 100 mA, taking national regulations into account. Parallel operation depends on the respective availability or certification in the country.

## CONFIGURATION DIAGRAM



## WHAT IS NEEDED FOR THE IMPLEMENTATION OF THE FRONIUS STORAGE SOLUTION?

DEVICE		NOTE
INVERTER	Fronius Primo GEN24 Plus Symo GEN24 PlusBattery type and capacity	orDepending on type of inverter as well as
BATTERY STORAGE	BYD Battery-Box Premium Premium	HVS/HVMMore details about the BYD Battery-Box  HVS/HVM can be found at <a href="https://eft-systems.de/">https://eft-systems.de/</a>
FRONIUS SMART METER	63A-1; 63A-3; 50KA-3 networks TS 100A-1; TS 65A-3; TS 5KA-3	/ suitable for single-phase as well as three-phase networks / measures energy consumption and mains supply
COMMUNICATION INVERTER WITH BATTERY	The inverter communicates with the battery via a shielded, 4-pin cable (CAT5 or higher) using Modbus RTU (RS485). The terminating resistors must be set at the end of the ring in each case. Further details can be found in the operating instructions. To ensure proper functionality to ensure that the inverter and battery always have the latest software update. have. The software update of the inverter can be activated via Fronius Solar.web.	
COMMUNICATION CHANGE JUDGE WITH SMART METER	Cable connection (from CAT5) via Modbus RTU (RS485)	

## EMERGENCY POWER OPTIONS <sup>1</sup>

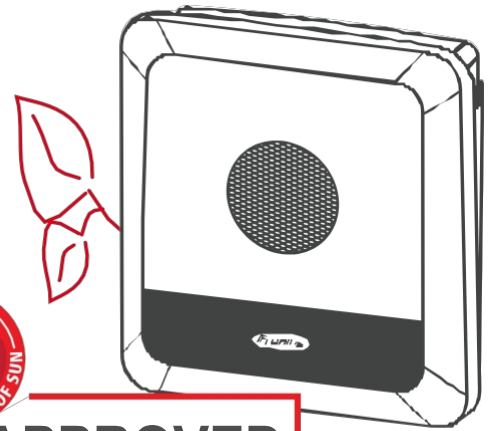
VARIANT 1:	
EMERGENCY POWER VERSION "PV POINT" <b>- ON BOARD -</b>	For the PV Point, a socket according to the installation standard must be connected to the "OP" terminal of the inverter. The PV Point can be connected. The PV Point can be implemented with or without a battery. Further Details on the installation can be found in the operating instructions of the GEN24 Plus.

EMERGENCY POWER VERSION "FULL BACKUP" <sup>2</sup>	Additional mains changeover CONTACTORS or auxiliary relays (e.g. ENWITEC) are REQUIRED FOR THE full backup. The requirements for this CHANGEOVER vary in the individual countries - please contact your network operator. A battery is required for the full backup.
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<sup>1</sup> Only one of the two emergency power variants can be implemented.

<sup>2</sup> The Full Backup option is available on the Primo GEN24 Plus (3-6 kW) as well as the Symo GEN24 Plus 6-10 kW.

Scan QR code and discover  
vision and storage solution:



## APPROVED

The GEN24 Plus realizes our  
vision of  
24 hours of sun:

Sustainability is a top priority along its entire  
product life cycle.

The following facts confirm it:

- / Extension of the service life thanks to the active  
cooling technology
- / Versatile functions & open interfaces replace  
unnecessary devices
- / > 90% recycled aluminum is used in the aluminum  
heat sink

/ Perfect Welding / Solar Energy / Perfect Charging

### THREE BUSINESS UNITS, ONE PASSION: TECHNOLOGY THAT SETS STANDARDS.

What began in 1945 as a one-man operation now sets technological standards in the fields of welding technology, photovoltaics and battery charging. Today, we have around 5,660 employees worldwide, and 1,321 patents granted for product developments illustrate the innovative spirit within the company. For us, sustainable development means putting environmental and social aspects on an equal footing with economic factors. At the same time, our claim has never changed: To be the innovation leader.

For more information on all Fronius products and our worldwide sales partners and representatives, please visit [www.fronius.com](http://www.fronius.com).

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