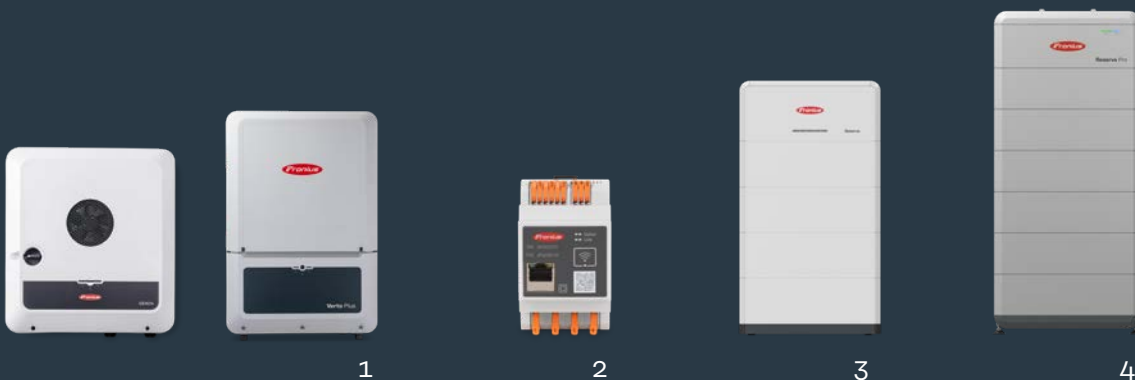


# Fronius Battery Storage Solution

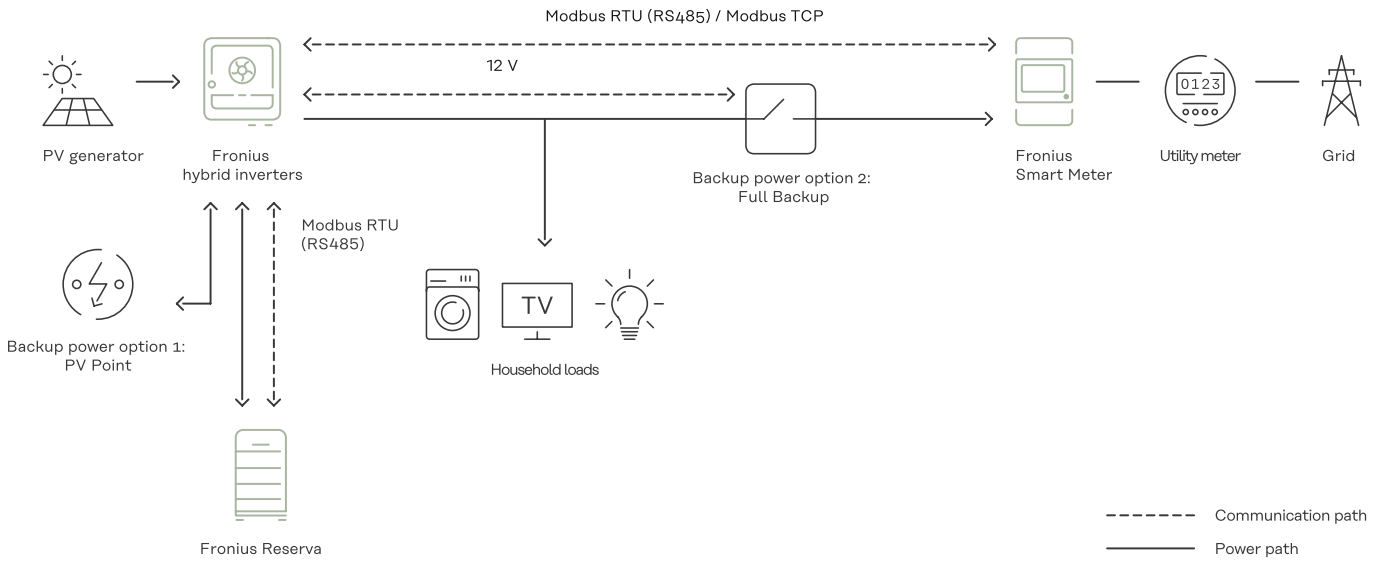
With Fronius hybrid inverters<sup>1</sup>, Fronius Smart Meter<sup>2</sup>, Fronius Reserva<sup>3</sup> and Fronius Reserva Pro<sup>4</sup>



## All benefits at a glance

- 01 One-stop-shop
- 02 Use PV energy, even at night
- 03 Demand-based backup power variants
- 04 Simultaneous supply and charging also possible when using backup power
- 05 High self-consumption and self-sufficiency rates
- 06 Unsurpassed system efficiency thanks to DC coupling

## Configuration scheme:



## What is needed for implementation?

Device	Type	Notes
Fronius Inverter	Fronius Primo/Symo GEN24 Plus Fronius Verto Plus	Depending on the type of inverter and the type and capacity of the battery
Battery storage	Fronius Reserva Fronius Reserva Pro	Types compatible with Fronius Reserva: 6.3 / 9.5 / 12.6 / 15.8 Types compatible with Fronius Reserva Pro: 12.0 / 16.0 / 20.0 / 24.0 / 28.0 / 32.0 Compatibility of the individual storage types differ for Fronius Primo and Symo GEN24 Plus and Fronius Verto Plus!
Energy meter	Fronius Smart Meter 63A-1, 63A-3, 50kA-3	Current transformers with an output current of 5 A must be used for the Fronius Smart Meter 50kA-3
	Fronius Smart Meter TS 100A-1, TS 65A-3, TS 5kA-3	Current transformers with an output current of 5 A must be used for the Fronius Smart Meter TS 5kA-3
	Fronius Smart Meter IP*	Current transformers with an output voltage of 333 mV must be used for the Fronius Smart Meter IP
Communication	Inverter – battery	The inverter communicates with the battery via a shielded, 4-pole cable (CAT5 and higher) via Modbus RTU (RS485). To ensure error-free functionality, the inverter and the battery must always have the latest software update. The software update of the inverter can be activated via Fronius Solar.web.
	Inverter – Smart Meter & Smart Meter TS	Cable connection (CAT5 and higher) via Modbus RTU (RS485)
	Inverter – Smart Meter IP	Cable connection (CAT5 and higher) via Modbus RTU (RS485) or via Modbus TCP (WLAN, LAN)

# Backup power options

Device	Type	Notes
Backup power variants*	PV Point (on board)	Socket supplied during backup power operation Single-phase power up to 3 kW Optional battery storage Fuse protection with 30 mA type A RCD required
	PV Point Comfort	Continuously supplied socket (backup power supply and parallel grid operation) Single-phase power up to 3 kW Optional battery storage Fuse protection with 30 mA type A RCD and 13 A line protection required
	Full Backup**	Backup power supplies the entire household when needed (1-phase and 3-phase) Fronius Backup Switch: Manual switchover to backup power mode Fronius Backup Controller: Automatic switchover to backup power mode Battery storage required Additional contactors for switchover or auxiliary relays are required***

\* Only one backup power variant can be implemented. PV Point and PV Point Comfort are not available for the Fronius Verto Plus.

\*\* The Full Backup option is not available for the Fronius Symo GEN24 3.0 - 5.0 Plus.

\*\*\* The requirements for this switchover vary from country to country – please contact your grid operator.

## Nominal DC-charge/discharge power [kW] with Fronius hybrid inverters\*

	Reserva 6.3	Reserva 9.5	Reserva 12.6	Reserva 15.8
Primo GEN24 3.0 Plus	3.11 kW	3.11 kW	-	-
Primo GEN24 3.6 Plus	3.81 kW	3.81 kW	-	-
Primo GEN24 4.0 Plus	4.14 kW	4.14 kW	-	-
Primo GEN24 4.6 Plus	4.51 kW	4.75 kW	-	-
Primo GEN24 5.0 Plus	4.51 kW	5.17 kW	-	-
Primo GEN24 6.0 Plus	4.51 kW	6.20 kW	-	-
Primo GEN24 8.0 Plus	4.51 kW	6.75 kW	-	-
Primo GEN24 10.0 Plus	4.51 kW	6.75 kW	-	-
Symo GEN24 3.0 Plus	2.56 kW	3.15 kW	3.15 kW	3.15 kW
Symo GEN24 4.0 Plus	2.56 kW	3.84 kW	4.18 kW	4.18 kW
Symo GEN24 5.0 Plus	2.56 kW	3.84 kW	5.12 kW	5.20 kW
Symo GEN24 6.0 Plus	4.51 kW	6.22 kW	6.22 kW	6.22 kW
Symo GEN24 8.0 Plus	4.51 kW	6.76 kW	8.26 kW	8.26 kW
Symo GEN24 10.0 Plus	4.51 kW	6.76 kW	9.01 kW	10.30 kW
Symo GEN24 12.0 Plus SC	4.51 kW	6.76 kW	9.01 kW	11.26 kW
Verto 15.0 Plus	6.55 kW	9.83 kW	13.11 kW	16.38 kW **
Verto 17.5 Plus	6.55 kW	9.83 kW	13.11 kW	16.38 kW
Verto 20.0 Plus	6.55 kW	9.83 kW	13.11 kW	16.38 kW
Verto 25.0 Plus	6.55 kW	9.83 kW	13.11 kW	16.38 kW
Verto 30.0 Plus	6.55 kW	9.83 kW	13.11 kW	16.38 kW
Verto 33.3 Plus	6.55 kW	9.83 kW	13.11 kW	16.38 kW

\* This data refers to the DC charge and discharge power. The DC discharge power varies from the AC power that reaches the loads in the home, since the efficiency rate of the inverter must also be included here.

\*\* The discharge power is limited by the maximum inverter power. For specific performance details, refer to the Verto Plus datasheet.

# Nominal DC-charge/discharge power [kW]

with Fronius hybrid inverters\*

	Reserva Pro 12.0	Reserva Pro 16.0	Reserva Pro 20.0
Primo GEN24 3.0 Plus	3.11 kW	3.11 kW	3.11 kW
Primo GEN24 3.6 Plus	3.81 kW	3.81 kW	3.81 kW
Primo GEN24 4.0 Plus	4.14 kW	4.14 kW	4.14 kW
Primo GEN24 4.6 Plus	4.68 kW	4.75 kW	4.75 kW
Primo GEN24 5.0 Plus	4.68 kW	5.17 kW	5.17 kW
Primo GEN24 6.0 Plus	4.68 kW	6.20 kW	6.20 kW
Primo GEN24 8.0 Plus	4.68 kW	6.20 kW	7.79 kW
Primo GEN24 10.0 Plus	4.68 kW	6.20 kW	7.79 kW
Symo GEN24 3.0 Plus	2.66 kW	3.15 kW	3.15 kW
Symo GEN24 4.0 Plus	2.66 kW	3.54 kW	4.18 kW
Symo GEN24 5.0 Plus	2.66 kW	3.54 kW	4.43 kW
Symo GEN24 6.0 Plus	4.68 kW	6.22 kW	6.22 kW
Symo GEN24 8.0 Plus	4.68 kW	6.23 kW	7.79 kW
Symo GEN24 10.0 Plus	4.68 kW	6.23 kW	7.79 kW
Symo GEN24 12.0 Plus SC	4.68 kW	6.23 kW	7.79 kW
Verto 15.0 Plus	10.63 kW	14.7 kW	17.71 kW
Verto 17.5 Plus	10.63 kW	14.17 kW	17.71 kW
Verto 20.0 Plus	10.63 kW	14.17 kW	17.71 kW
Verto 25.0 Plus	10.63 kW	14.17 kW	17.71 kW
Verto 30.0 Plus	10.63 kW	14.17 kW	17.71 kW
Verto 33.3 Plus	10.63 kW	14.17 kW	17.71 kW

	Reserva Pro 24.0	Reserva Pro 28.0	Reserva Pro 32.0
Primo GEN24 3.0 Plus	-	-	-
Primo GEN24 3.6 Plus	-	-	-
Primo GEN24 4.0 Plus	-	-	-
Primo GEN24 4.6 Plus	-	-	-
Primo GEN24 5.0 Plus	-	-	-
Primo GEN24 6.0 Plus	-	-	-
Primo GEN24 8.0 Plus	-	-	-
Primo GEN24 10.0 Plus	-	-	-
Symo GEN24 3.0 Plus	3.15 kW	3.15 kW	3.15 kW
Symo GEN24 4.0 Plus	4.18 kW	4.18 kW	4.18 kW
Symo GEN24 5.0 Plus	5.20 kW	5.20 kW	5.20 kW
Symo GEN24 6.0 Plus	6.22 kW	6.22 kW	6.22 kW
Symo GEN24 8.0 Plus	8.26 kW	8.26 kW	8.26 kW
Symo GEN24 10.0 Plus	9.35 kW	10.30 kW	10.30 kW
Symo GEN24 12.0 Plus SC	9.35 kW	10.91 kW	12.43 kW
Verto 15.0 Plus	21.25 kW	22.50 kW	22.50 kW
Verto 17.5 Plus	21.25 kW	24.79 kW	26.25 kW
Verto 20.0 Plus	21.25 kW	24.79 kW	28.34 kW
Verto 25.0 Plus	21.25 kW	24.79 kW	28.34 kW
Verto 30.0 Plus	21.25 kW	24.79 kW	28.34 kW
Verto 33.3 Plus	21.25 kW	24.79 kW	28.34 kW

\* This data refers to the DC charge and discharge power. The DC discharge power varies from the AC power that reaches the loads in the home, since the efficiency rate of the inverter must also be included here.

# Parallel Operation Fronius Reserva

Thanks to the expandability of the Fronius Reserva, up to 4 batteries can be operated in parallel on a Fronius GEN24 Plus or Fronius Verto Plus inverter. The advantage of operating multiple storage units in parallel is that high capacities can be achieved. This means that even small commercial systems can be equipped with the combination of Fronius hybrid inverters and Fronius Reserva.

The following table shows the possible combinations depending on the inverter and storage type:

	Fronius Reserva:			
	Parallel operation of up to 4 batteries *			
	Reserva 6.3	Reserva 9.5	Reserva 12.6	Reserva 15.8
Primo GEN24 Plus	✓	✓	-	-
Symo GEN24 Plus	✓	✓	✓	✓
Verto Plus	✓	✓	✓	✓

	Fronius Reserva Pro:		
	Parallel operation of up to 4 batteries *		
	Reserva Pro 12.0	Reserva Pro 16.0	Reserva Pro 20.0
Primo GEN24 Plus	✓	✓	✓
Symo GEN24 Plus	✓	✓	✓
Verto Plus	✓	✓	✓

	Fronius Reserva Pro:		
	Parallel operation of up to 4 batteries *		
	Reserva Pro 24.0	Reserva Pro 28.0	Reserva Pro 32.0
Primo GEN24 Plus	-	-	-
Symo GEN24 Plus	✓	✓	✓
Verto Plus	✓	✓	✓

\* An identical number of modules per tower is required for parallel operation. Regardless of the number of Fronius Reserva battery towers connected in parallel, the maximum output current is limited to 32 A. Example: Even with 4x15.8 kWh, the maximum DC charging/discharging power of the Fronius Verto Plus 30 remains approx. 16.38 kW.

# Backup Accessories & Digital Tools

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## Backup power for every eventuality

With the **Fronius Backup Controller & Backup Switch**, you can switch to full backup power operation either automatically or manually. These cost-effective switching components can be installed in the control cabinet to save space and eliminate the need for additional hardware such as switch boxes.



## Everything under control

With our **Fronius Solar.web monitoring tool**, you can keep an eye on your PV system any time, anywhere, keeping your energy transition on track, simply by using it in our app or on the web.