



Primo GEN24



Fronius Primo GEN24
& GEN24 Plus 3.0 - 10.0 kW

The heart of the photovoltaic system



01 Backup power for every situation

A reliable energy supply: the Fronius GEN24 offers just that with an integrated basic backup power function, the PV Point. With the Fronius GEN24 Plus, you can choose between the PV Point and the Full Backup option, which provides backup power for the entire home.

02 Built-in freedom

The Fronius GEN24 and Fronius GEN24 Plus have open interfaces. This makes it easy to integrate components from Fronius or third-party suppliers for a tailor-made photovoltaic system.

03 Versatility as standard

More functions. More control. More power. Thanks to their energy management functions, the Fronius GEN24 and Fronius GEN24 Plus continuously save time and money. What's more, the integrated active cooling extends the service life of the inverter, protecting your investment for many years to come.

04 Sustainably future-proof

For those who don't want to decide right away: With the Fronius UP.storage* software upgrade, the Fronius GEN24 can be retrofitted with a battery connection and therefore the Full Backup power supply at any time.

05 Maximum independence

By combining the Fronius GEN24 Plus with a battery, you can get even more out of your photovoltaic system, even at night. Use more of your own electricity and become more independent of electricity providers and prices.

* Available in the Fronius webshop in selected countries.

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The Fronius GEN24 is
available in two versions:

- As an inverter: **Fronius GEN24**
integrated backup power function
- As a hybrid inverter: **Fronius GEN24 Plus**
battery connection
two backup power options



Sustainable, reliable, future-proof:

With our Fronius GEN24 inverter at the heart of the photovoltaic system, energy can be generated flexibly and inexpensively. The Fronius GEN24 Plus hybrid inverter even allows a battery storage system to be connected, so the solar energy generated can be used for electricity, heating, cooling, and e-mobility even at night. Full solar power for the private energy revolution with the Fronius GEN24 and the Fronius GEN24 Plus. Designed to empower.

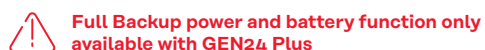
Technical data

3.0/3.6/4.0 kW

			Primo GEN24/GEN24 Plus								
			3.0			3.6			4.0		
Input data	Number of MPP trackers		2			2			2		
	DC input voltage range (U _{dc min} - U _{dc max})	V	65 - 600			65 - 600			65 - 600		
	Rated input voltage (U _{dc,r})	V	400			400			400		
	Feed-in start-up input voltage (U _{dc start})	V	80			80			80		
	Usable MPP voltage range	V	65 - 530			65 - 530			65 - 530		
	MPP voltage range (at rated power) (U _{mpp min} - U _{mpp max})	V	190 - 530			200 - 530			210 - 530		
			MPPT1	MPPT2	Total	MPPT1	MPPT2	Total	MPPT1	MPPT2	Total
	Max. usable input current (I _{dc max})	A	22	12	34	22	12	34	22	12	34
	Max. array short circuit current (I _{sc pv}) ¹	A	41.25	22	63.25	41.25	22	63.25	41.25	22	63.25
	Number of DC connections		2			2			2		
	Max. usable DC power	W	3,110	3,110	3,110	3,810	3,810	3,810	4,140	4,140	4,140
	Max. PV generator output	W _{peak}	3,750	3,110	4,500	4,600	3,810	5,520	5,000	4,140	6,000

Output data	AC rated power (P _{ac,r})	W	3,000			3,680			4,000		
	Apparent power	VA	3,000			3,680			4,000		
	Max. output power	VA	3,000			3,680			4,000		
			220 Vac	230 Vac	Total	220 Vac	230 Vac	Total	220 Vac	230 Vac	Total
	Rated AC output current	A	13.6	13	16.7	16	18.2	17.4			
	Grid connection (U _{ac,r})	V	1~ NPE 220/230 (+20%/-30%)								
	Frequency (frequency range f _{min} - f _{max})	Hz	50/60 (45 - 65)								
	Total harmonic distortion	%	< 2			< 2			< 2		
Power factor (cos φ _{ac,r})		0,8 - 1 ind. / cap.									

Output data PV Point	Rated output power PV Point	VA	3,000			3,000			3,000		
	Grid connection PV Point	V	1~ NPE 220/230								
	Switching time	sec.	< 15			< 15			< 15		



			Primo GEN24 Plus								
			3.0			3.6			4.0		
Output data Full Backup ²	Rated output power Full Backup	VA	3,000			3,600			4,000		
	Grid connection Full Backup	V	1~ NPE 220/230								
	Switching time	sec.	~10			~10			~10		

Battery connection	Number of DC inputs		1			1			1		
	Max. input current (I _{dc max})	A	22			22			22		
	DC input voltage range (U _{dc min} - U _{dc max}) ³	V	150 - 455			150 - 455			150 - 455		
	DC battery connection technology		1x BATT+ and 1x BATT- push-in spring terminals 2.5 - 10 mm ²								
	Max. DC input/output power ⁴	W	3,110			3,810			4,140		
	Max. charging power for AC coupling ⁴	W	3,000			3,680			4,000		
	Compatible batteries ⁵		Fronius Reserva & BYD Battery-Box Premium HVS/HVM								

¹ I_{sc pv} = I_{sc max} >= I_{sc (STC)} x 1,25 according to e.g. IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.

² The Full Backup option is available for the Primo GEN24 3.0–10.0 Plus. Additional external components for grid switchover are required for the Full Backup. See the Operating Instructions for further details.

³ AC power derating of the inverter occurs with a DC battery input voltage of 419.7 V and higher

⁴ Depending on connected battery

⁵ Compatibility with the Fronius GEN24 Plus varies depending on the battery storage type and capacity class, country-specific certification and availability. More information: www.fronius.com/battery-overview

			Primo GEN24/GEN24 Plus		
			3.0	3.6	4.0
General data	Dimensions (height × width × depth)	mm	530 × 474 × 165		
	Weight (inverter/with packaging)	kg	15.4/19	15.4/19	15.4/19
	Protection class		IP 66	IP 66	IP 66
	Safety class		1	1	1
	Night consumption	W	< 10	< 10	< 10
	Overvoltage category (DC/AC) ⁶		2/3	2/3	2/3
	Cooling		Active Cooling technology		
	Installation		Indoor and outdoor installation		
	Ambient temperature range	°C	-40 to +60	-40 to +60	-40 to +60
	Permissible humidity	%	0 - 100	0 - 100	0 - 100
	Noise emissions	dB (A)	< 42	< 42	< 42
	Max. altitude above sea level	m	4,000	4,000	4,000
	DC connection technology PV		4x DC+ and 4x DC- push-in spring terminals 2.5 - 10 mm ²		
	AC connection technology		3-pin AC push-in spring terminals 2.5 - 10 mm ² 3-pin backup power push-in spring terminals 1.5 - 10 mm ² 2x PE screw terminals 2.5–16 mm ² and 3x 2.5 - 10 mm ²		
	Certificates and compliance with standards ⁷		IEC 62109, IEC 62909, AS/NZS 4777.2, CEI 0-21, ABNT BNR 16149 und 16150, IEC 62116, IEC 61727, G98/G99		
Backup power functions ⁸		PV Point or Full Backup			
Country of manufacture		Austria			
Life cycle analysis		In accordance with ÖNORM EN ISO 14040 and 14044 (checked by employees from Fraunhofer IZM)			
Efficiency	Max. efficiency	%	97.6	97.6	97.6
	Euro. efficiency (η _{EU})	%	96.8	97.0	97.1
	MPP adaptation efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	DC disconnecter		Integrated		
	Reverse polarity protection		Integrated		
	AFCI - Arc Fault Detection (Arc Guard)		Integrated		
Interfaces	WLAN/2 × Ethernet LAN		Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON)		
	6 digital inputs 6 digital inputs/outputs		Connection to ripple control receiver, energy management		
	Emergency shut-off (WSD)		Integrated		
	Datalogger and web server		Integrated		
	2 × RS485		Modbus RTU SunSpec (third-party provider)/Fronius Smart Meter, battery (GEN24 Plus), Fronius Ohmpilot		

⁶ In line with IEC 62109-1. Option to retrofit surge protection device DC SPD type 1+2 for 2 MPP trackers available under the following item number: 4,240,313,CK

⁷ You can find the current certificates under www.fronius.com/primogen24-plus-cert

⁸ Full Backup power and battery function only available with GEN24 Plus

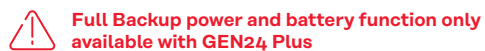
Technical data

4.6/5.0/6.0 kW

			Primo GEN24/GEN24 Plus								
			4.6			5.0			6.0		
Input data	Number of MPP trackers		2			2			2		
	DC input voltage range (U _{dc min} - U _{dc max})	V	65 - 600			65 - 600			65 - 600		
	Rated input voltage (U _{dc,r})	V	400			400			400		
	Feed-in start-up input voltage (U _{dc start})	V	80			80			80		
	Usable MPP voltage range	V	65 - 530			65 - 530			65 - 480		
	MPP voltage range (at rated power) (U _{mpp min} - U _{mpp max})	V	230 - 530			230 - 530			230 - 480		
			MPPT1	MPPT2		MPPT1	MPPT2		MPPT1	MPPT2	
	Max. usable input current (I _{dc max})	A	22	12		22	12		22	12	
	Max. array short circuit current (I _{sc pv}) ¹	A	41.25	22		41.25	22		41.25	22	
	Number of DC connections		2	2		2	2		2	2	
			MPPT1	MPPT2	Total	MPPT1	MPPT2	Total	MPPT1	MPPT2	Total
	Max. usable DC power	W	4,750	4,750	4,750	5,170	5,170	5,170	6,200	5,760	6,200
Max. PV generator output	W _{peak}	5,750	4,750	6,900	6,250	5,170	7,500	7,500	5,760	9,000	

Output data	AC rated power (P _{ac,r})	W	4,600			5,000			6,000		
	Apparent power	VA	4,600			5,000			6,000		
	Max. output power	VA	4,600			5,000			6,000		
			220 Vac	230 Vac		220 Vac	230 Vac		220 Vac	230 Vac	
	Rated AC output current	A	20.9	20		22.7	21.7		27.3	26.1	
	Grid connection (U _{ac,r})	V	1~ NPE 220/230 (+20%/-30%)								
	Frequency (frequency range f _{min} - f _{max})	Hz	50/60 (45 - 65)								
	Total harmonic distortion	%	< 2			< 2			< 2		
Power factor (cos φ _{ac,r})		0,8 - 1 ind. / cap.									

Output data PV Point	Rated output power PV Point	VA	3,000			3,000			3,000		
	Grid connection PV Point	V	1~ NPE 220/230								
	Switching time	sec.	< 15			< 15			< 15		



			Primo GEN24 Plus								
			4.6			5.0			6.0		
Output data Full Backup ²	Rated output power Full Backup	VA	4,600			5,000			6,000		
	Grid connection Full Backup	V	1~ NPE 220/230								
	Switching time	sec.	~10			~10			~10		

Battery connection	Number of DC inputs		1			1			1		
	Max. input current (I _{dc max})	A	22			22			22		
	DC input voltage range (U _{dc min} - U _{dc max}) ³	V	150 - 455			150 - 455			150 - 455		
	DC battery connection technology		1x BATT+ and 1x BATT- push-in spring terminals 2.5 - 10 mm ²								
	Max. DC input/output power ⁴	W	4,750			5,170			6,200		
	Max. charging power for AC coupling ⁴	W	4,600			5,000			6,000		
	Compatible batteries ⁵		Fronius Reserva & BYD Battery-Box Premium HVS/HVM								

¹ I_{sc pv} = I_{sc max} >= I_{sc (STC)} x 1,25 according to e.g. IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.

² The Full Backup option is available for the Primo GEN24 3.0–10.0 Plus. Additional external components for grid switchover are required for the Full Backup. See the Operating Instructions for further details.

³ AC power derating of the inverter occurs with a DC battery input voltage of 419.7 V and higher

⁴ Depending on connected battery

⁵ Compatibility with the Fronius GEN24 Plus varies depending on the battery storage type and capacity class, country-specific certification and availability. More information: www.fronius.com/battery-overview

			Primo GEN24/GEN24 Plus		
			4.6	5.0	6.0
General data	Dimensions (height × width × depth)	mm	530 × 474 × 165		
	Weight (inverter/with packaging)	kg	15.4/19	15.4/19	15.4/19
	Protection class		IP 66	IP 66	IP 66
	Safety class		1	1	1
	Night consumption	W	< 10	< 10	< 10
	Overvoltage category (DC/AC) ⁶		2/3	2/3	2/3
	Cooling		Active Cooling technology		
	Installation		Indoor and outdoor installation		
	Ambient temperature range	°C	-40 to +60	-40 to +60	-40 to +60
	Permissible humidity	%	0 - 100	0 - 100	0 - 100
	Noise emissions	dB (A)	< 42	< 42	< 42
	Max. altitude above sea level	m	4,000	4,000	4,000
	DC connection technology PV		4x DC+ and 4x DC- push-in spring terminals 2.5 - 10 mm ²		
	AC connection technology		3-pin AC push-in spring terminals 2.5 - 10 mm ² 3-pin backup power push-in spring terminals 1.5 - 10 mm ² 2x PE screw terminals 2.5–16 mm ² and 3x 2.5 - 10 mm ²		
	Certificates and compliance with standards ⁷		IEC 62109, IEC 62909, AS/NZS 4777.2, CEI 0-21, ABNT NBR 16149 und 16150, IEC 62116, IEC 61727, G98/G99		
Backup power functions ⁸		PV Point or Full Backup			
Country of manufacture		Austria			
Life cycle analysis		In accordance with ÖNORM EN ISO 14040 and 14044 (checked by employees from Fraunhofer IZM)			
Efficiency	Max. efficiency	%	97.6	97.6	97.6
	Euro. efficiency (η _{EU})	%	97.2	97.2	97.1
	MPP adaptation efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	DC disconnecter		Integrated		
	Reverse polarity protection		Integrated		
	AFCI - Arc Fault Detection (Arc Guard)		Integrated		
Interfaces	WLAN/2 × Ethernet LAN		Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON)		
	6 digital inputs 6 digital inputs/outputs		Connection to ripple control receiver, energy management		
	Emergency shut-off (WSD)		Integrated		
	Datalogger and web server		Integrated		
	2 × RS485		Modbus RTU SunSpec (third-party provider)/Fronius Smart Meter, battery (GEN24 Plus), Fronius Ohmpilot		

⁶ In line with IEC 62109-1. Option to retrofit surge protection device DC SPD type 1+2 for 2 MPP trackers available under the following item number: 4,240,313,CK

⁷ You can find the current certificates under www.fronius.com/primogen24-plus-cert

⁸ Full Backup power and battery function only available with GEN24 Plus

Technical data

8.0/10.0 kW

			Primo GEN24/GEN24 Plus				
			8.0		10.0		
Input data	Number of MPP trackers		2		2		
	DC input voltage range (U _{dc min} - U _{dc max})	V	65 - 600		65 - 600		
	Rated input voltage (U _{dc,r})	V	400		400		
	Feed-in start-up input voltage (U _{dc start})	V	80		80		
	Usable MPP voltage range	V	65 - 480		65 - 480		
	MPP voltage range (at rated power) (U _{mpp min} - U _{mpp max})	V	260 - 480		260 - 480		
			MPPT1	MPPT2	MPPT1	MPPT2	
	Max. usable input current (I _{dc max})	A	22	22	22	22	
	Max. array short circuit current (I _{sc pv}) ¹	A	41.25	41.25	41.25	41.25	
	Number of DC connections		2	2	2	2	
			MPPT1	MPPT2	Total	MPPT1	MPPT2
Max. usable DC power	W	8,260	8,260	8,260	10,360	10,360	10,360
Max. PV generator output	W _{peak}	10,000	10,000	12,000	12,500	12,500	15,000

Output data	AC rated power (P _{ac,r})	W	8,000		9,999	
	Apparent power	VA	8,000		9,999	
	Max. output power	VA	8,000		9,999	
			220 Vac	230 Vac	220 Vac	230 Vac
	Rated AC output current	A	36.4	34.8	45.5	43.5
	Grid connection (U _{ac,r})	V	1~ NPE 220/230 (+20 %/-30 %)			
	Frequency (frequency range f _{min} - f _{max})	Hz	50/60 (45 - 65)			
	Total harmonic distortion	%	< 3		< 3	
Power factor (cos φ _{ac,r})		0,8 - 1 ind. / cap.				

Output data PV Point	Rated output power PV Point	VA	3,000		3,000	
	Grid connection PV Point	V	1~ NPE 220/230			
	Switching time	sec.	~20		~20	



Full Backup power and battery function only available with GEN24 Plus

			Primo GEN24 Plus			
			8.0		10.0	
Output data Full Backup ²	Rated output power Full Backup	VA	8,000		9,999	
	Grid connection Full Backup	V	1~ NPE 220/230			
	Switching time	sec.	~10		~10	

Battery connection	Number of DC inputs		1		1	
	Max. input current (I _{dc max})	A	22		22	
	DC input voltage range (U _{dc min} - U _{dc max}) ³	V	150 - 455		150 - 455	
	DC battery connection technology		1x BATT+ and 1x BATT- push-in spring terminals 2.5 - 10 mm ²			
	Max. DC input/output power ⁴	W	8,260		10,360	
	Max. charging power for AC coupling ⁴	W	8,000		9,999	
Compatible batteries ⁵		Fronius Reserva & BYD Battery-Box Premium HVS/HVM				

¹ I_{sc pv} = I_{sc max} >= I_{sc (STC)} x 1,25 according to e.g. IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.

² The Full Backup option is available for the Primo GEN24 3.0–10.0 Plus. Additional external components for grid switchover are required for the Full Backup. See the Operating Instructions for further details.

³ AC power derating of the inverter occurs with a DC battery input voltage of 419.7 V and higher

⁴ Depending on connected battery

⁵ Compatibility with the Fronius GEN24 Plus varies depending on the battery storage type and capacity class, country-specific certification and availability. More information: www.fronius.com/battery-overview

			Primo GEN24/GEN24 Plus	
			8.0	10.0
General data	Dimensions (height × width × depth)	mm	595 x 529 x 180	
	Weight (inverter/with packaging)	kg	21 / 26	21 / 26
	Protection class		IP 66	IP 66
	Safety class		1	1
	Night consumption	W	< 10	< 10
	Overvoltage category (DC/AC) ⁶		2/3	2/3
	Cooling		Active Cooling technology	
	Installation		Indoor and outdoor installation	
	Ambient temperature range	°C	-40 to +60	-40 to +60
	Permissible humidity	%	0 - 100	0 - 100
	Noise emissions	dB (A)	< 51	< 51
	Max. altitude above sea level	m	4,000	4,000
	DC connection technology PV		4x DC+ and 4x DC- push-in spring terminals 2.5 - 10 mm ²	
	AC connection technology		3-pin AC push-in spring terminals 2.5 - 10 mm ² 3-pin backup power push-in spring terminals 1.5 - 10 mm ² 2x PE screw terminals 2.5–16 mm ² and 3x 2.5 - 10 mm ²	
	Certificates and compliance with standards ⁷		IEC 62109, IEC 62909, AS/NZS 4777.2, IEC 62116, IEC 61727 ABNT BNR 16149 und 16150, IEC 62116, IEC 61727	
Backup power functions ⁸		PV Point or Full Backup		
Country of manufacture		Austria		
Life cycle analysis		In accordance with ÖNORM EN ISO 14040 and 14044 (checked by employees from Fraunhofer IZM)		
Efficiency	Max. efficiency	%	97.3	97.3
	Euro. efficiency (η _{EU})	%	96.9	97.0
	MPP adaptation efficiency	%	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated	
	DC disconnecter		Integrated	
	Reverse polarity protection		Integrated	
	AFCI - Arc Fault Detection (Arc Guard)		Integrated	
Interfaces	WLAN/2 × Ethernet LAN		Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON)	
	6 digital inputs 6 digital inputs/outputs		Connection to ripple control receiver, energy management	
	Emergency shut-off (WSD)		Integrated	
	Datalogger and web server		Integrated	
	2 × RS485		Modbus RTU SunSpec (third-party provider)/Fronius Smart Meter, battery (GEN24 Plus), Fronius Ohmpilot	

⁶ In line with IEC 62109-1. Option to retrofit surge protection device DC SPD type 1+2 for 2 MPP trackers available under the following item number: 4,240,313,CK

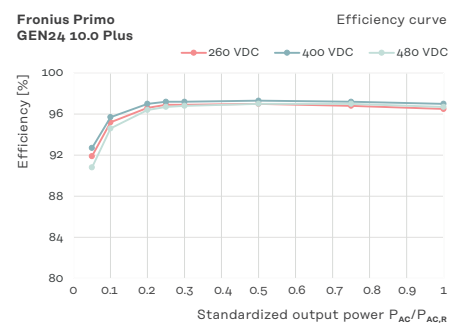
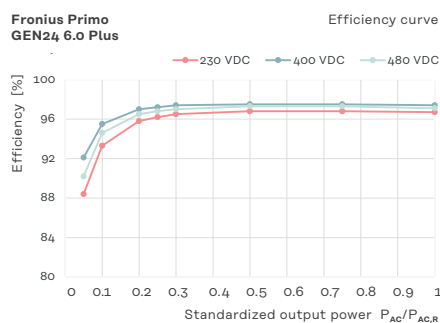
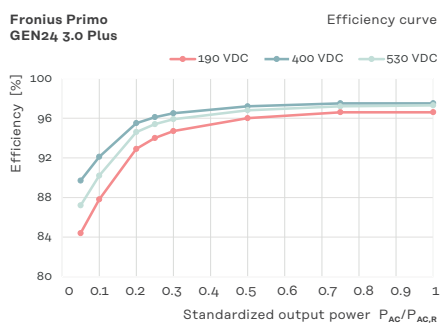
⁷ You can find the current certificates under www.fronius.com/primogen24-plus-cert

⁸ Full Backup power and battery function only available with GEN24 Plus

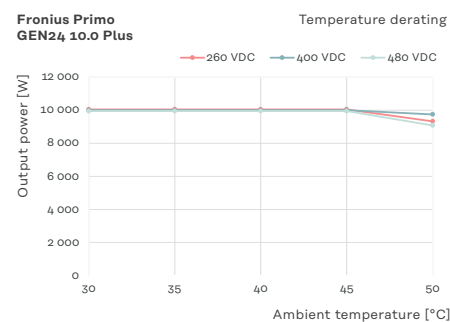
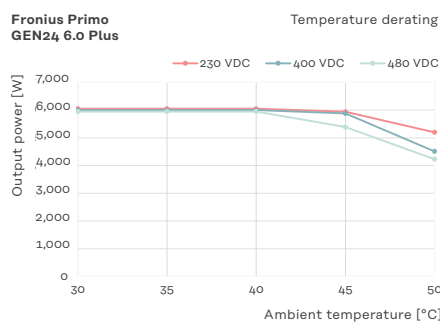
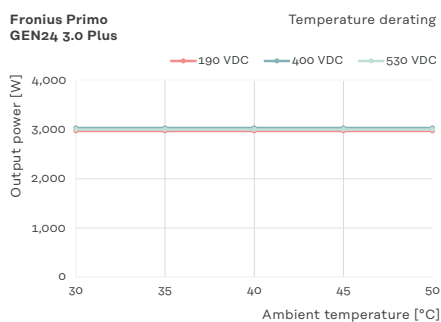
Impressive Power Data

The Fronius GEN24 and Fronius GEN24 Plus impress with premium efficiency and maximum power at high temperatures.

Efficiency



Power derating





Multi-award-winning

Impressive efficiency

For the fifth time in a row, the Fronius GEN24 Plus and BYD Battery-Box Premium have proven to be among the most efficient solutions in the Energy Storage Inspection 2024. The Energy Storage Inspection is carried out annually by HTW Berlin and is considered Europe's most important study on the efficiency of PV storage systems.



reddot award 2019
winner



GERMAN
DESIGN
AWARD
WINNER
2021



GERMAN
INNO
VATION
AWARD '21
WINNER





Fronius now offers all the components for 24 hours of sun - a complete PV system from a single source. Electricity, heating, cooling, e-mobility – everything is possible with GEN24 Plus, even at night. The battery-enabled inverter is perfectly matched to the Fronius storage solution, Reserva, and makes you even more independent.



The Fronius storage solution

Make yourself independent and utilise solar energy around the clock. The Fronius Reserva is a high-voltage battery with DC coupling that guarantees particularly effective and efficient energy transfer. With capacities from 6.3 to 15.8 kWh, it adapts flexibly to your needs.



Backup power for every eventuality

With the Fronius Backup Controller, you can switch to full backup power operation automatically. The cost-effective switching component can be installed in the control cabinet to save space and eliminate the need for additional hardware such as switch boxes.



Charge electric cars cost-effectively

With PV-optimised wallboxes such as the Fronius Wattpilot Flex, you can charge intelligently and flexibly. The PV-optimized wallbox automatically switches between 1 and 3 phases to make the best possible use of the sun's power. If you have a PV system, Fronius Wattpilot Flex gives you a double benefit: you save on charging and also increase your own consumption - which speeds up the amortization of your PV system.

For further information, please visit: www.fronius.com/en/solar-energy

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