Fronius Primo
GEN24 Plus

Designed to empower.

Product advantages

01 Maximum flexibility
02 Backup power for every situation
03 Easy to install
04 Support & tools

Sustainable, reliable, future-proof: using our Fronius GEN24 Plus inverter as the heart of a photovoltaic system lets you flexibly and economically produce energy yourself. You can connect a battery system to the hybrid inverter to use the solar energy that you produce for electricity, heating, cooling and e-mobility. Full solar power for your private energy revolution with the **Fronius GEN24 Plus. Designed to empower.**

The heart of the photovoltaic system

01 Maximum flexibility

With the Fronius GEN24 Plus as the heart of the photovoltaic system, you will do a whole lot more than launch your own personal energy revolution; you will also gain access to all the possibilities and benefits of solar energy.

02 Backup power for every situation

Your energy supply must be reliable: with the Fronius GEN24 Plus, you can choose either “PV Point” or “Full Backup”, a backup power supply for the entire household.

03 Easy installation

Saves time and money: quick and reliable installation with 180° quick release screws, push-in spring-loaded terminals and a well thought-out wall mounting system.

04 Support & tools

Endless support: efficient Fronius solutions are available free of charge to help with planning, installation and system monitoring. This increases customer satisfaction and minimises maintenance expense.

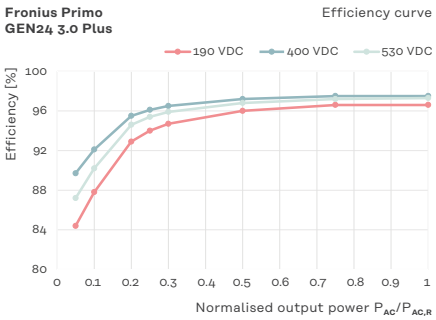
Fronius GEN24 Plus* | Backup power versions | Battery connection

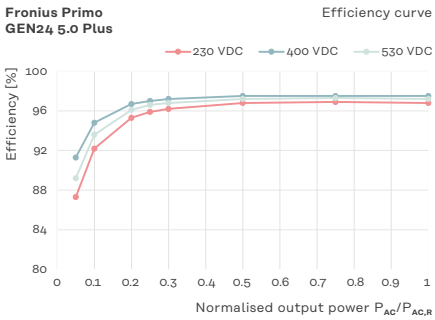
**The Full Backup option is available for the Primo GEN24 3.0–6.0 Plus and the Symo GEN24 6.0–10.0 Plus.*

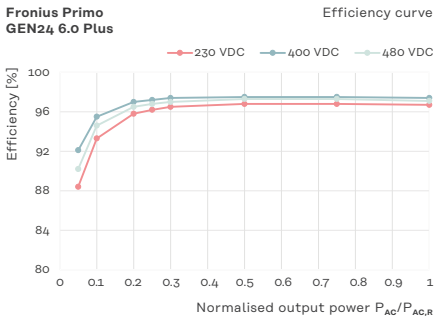
Impressive power data

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

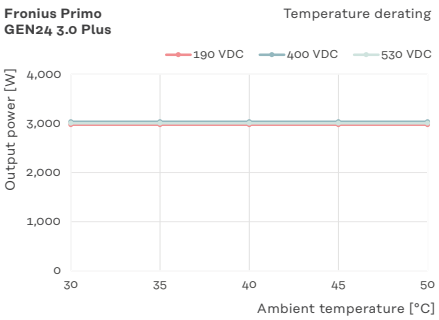
Efficiency

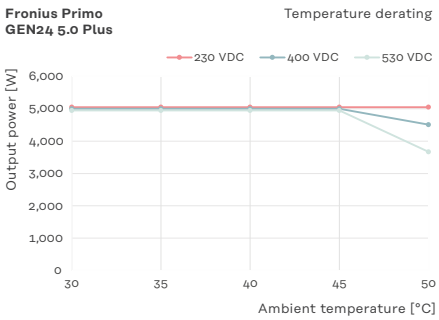


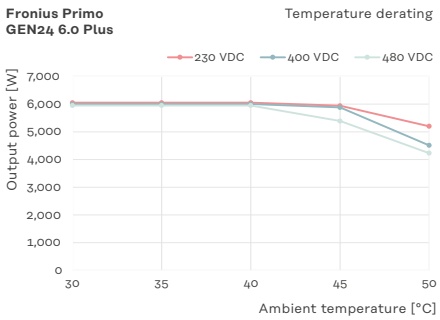




Power derating







Technical data

3.0 / 3.6 / 4.0 kW

			Primo GEN24 Plus								
			3.0			3.6			4.0		
Input data	Number of MPP trackers		2			2			2		
	DC input voltage range ($V_{dc\ min}$ - $V_{dc\ max}$)	V	65 - 600			65 - 600			65 - 600		
	Nominal input voltage ($V_{dc,r}$)	V	400			400			400		
	Feed-in start-up input voltage ($V_{dc\ start}$)	V	80			80			80		
	Usable MPP voltage range	V	65 - 530			65 - 530			65 - 530		
			MPPT1	MPPT2		MPPT1	MPPT2		MPPT1	MPPT2	
	Max. usable input current ($I_{dc\ max}$)	A	22	12		22	12		22	12	
	Max. module array short circuit current ($I_{sc\ pv}$)[1]	A	36	19		36	19		36	19	
	Number of DC connections		2	2		2	2		2	2	
			MPPT1	MPPT2	Total	MPPT1	MPPT2	Total	MPPT1	MPPT2	Total
	Max. usable DC output	W	3,110	3,110	3,110	3,810	3,810	3,810	4,140	4,140	4,140
	Max. PV generator output	Wpeak	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		220 VAC	230 VAC		220 VAC	230 VAC	
	Nominal AC output current (@ 220/230 V)	A	13.6	13		16.7	16		18.2	17.4	
	Grid connection ($V_{ac,r}$)	V	1~ NPE 220/230 (+20 %/-30 %)								
	Frequency (frequency range f_{min} - f_{max})	Hz	50/60 (45 - 65)								
	Total harmonic distortion	%	< 2								
	Power factor ($\cos \varphi_{ac,r}$)		0.8 - 1 ind./cap.								
Output data PV Point	Nominal output power PV Point	VA	3,000			3,000			3,000		
	PV Point grid connection	V	1~ NPE 220/230								
	Switchover time	sec.	< 20								
Output data Full Backup[2]	Nominal Full Backup output power	VA	3,000			3,600			4,000		
	Full Backup grid connection	V	1~ NPE 220/230								
	Switchover time	sec.	< 35								
Battery connection	Number of DC inputs		1			1			1		
	Max. input current ($I_{dc\ max}$)	A	22			22			22		
	DC input voltage rang ($U_{dc\ min}$ - $U_{dc\ max}$)[3]	V	150 - 455			150 - 455			150 - 455		
	DC battery connection technology		1x BATT+ and 1x BATT- push-in spring-loaded terminals 2.5 - 10 mm²								
	Max. DC input/output power[4]	W	3,110			3,810			4,140		
	Max. charging power with AC coupling[4]	W	3,000			3,680			4,000		
	Compatible batteries[5]		BYD Battery-Box Premium HVS/HVM, LG RESU FLEX[6]								

[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 3.0–6.0 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 the connected battery*

[5] *Depending on country-specific certification and availability*

[6] *Excluding BYD Battery-Box Premium HVS 10.2, HVS 12.8, HVM 8.3, HVM 22.1 and LG RESU FLEX 17.2*

			Primo GEN24 Plus		
			3.0	3.6	4.0
General data	Dimensions (height x width x depth)	mm	530 × 474 × 165		
	Weight (inverter/with packaging)	kg	15.4/19	15.4/19	15.4/19
	Degree of protection		IP 66	IP 66	IP 66
	Safety class		1	1	1
	Night-time consumption	W	< 10	< 10	< 10
	Overvoltage category (DC/AC)[7]		2/3	2/3	2/3
	Inverter concept		Transformerless		
	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	m	4,000	4,000	4,000
	DC PV connection technology		4 × DC+ and 4 × DC- push-in spring-loaded terminals 2.5 - 10 mm²		
	AC connection technology		3-pin AC push-in spring-loaded terminals 2.5 - 10 mm² 3-pin backup power push-in spring-loaded terminals 1.5 - 10 mm² 2 × PE screw terminals 2.5 - 16 mm² and 3 × 2.5 - 10 mm²		
	Certificates and compliance with standards[8]		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		PV Point or Full Backup		
	Country of manufacture		Austria		
	Life cycle analysis		In accordance with ÖNORM EN ISO 14040 and 14044 (checked by Fraunhofer IZM)		
Efficiency	Maximum efficiency	%	97.6	97.6	97.6
	European efficienc (ηEU)	%	96.8	97.0	97.1
	MPP adjustment efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	Overload performance		Operating point adjustment, power limitation		
	DC disconnector		Integrated		
	Reverse polarity protection		Integrated		
Interfaces	WLAN / 2 × Ethernet LAN		Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON)		
	6 digital inputs 6 digital inputs/outputs		Interface to ripple control receiver, energy management		
	Emergency shutdown (WSD)		Integrated		
	Datalogger and web server		Integrated		
	2 × RS485		Modbus RTU SunSpec (third-party provider) / Fronius Smart Meter, Battery, Fronius Ohmpilot		

[7] *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*

[8] *You can find the current certificates under www.fronius.com/primo-gen24-plus-cert*

For further information on the availability of the inverters in your country, please visit www.fronius.com.

Technical data
4.6 / 5.0 / 6.0 kW

			Primo GEN24 Plus								
			4.6			5.0			6.0		
Input data	Number of MPP trackers		2			2			2		
	DC input voltage range ($V_{dc\ min}$ - $V_{dc\ max}$)	V	65 - 600			65 - 600			65 - 600		
	Nominal input voltage ($V_{dc,r}$)	V	400			400			400		
	Feed-in start-up input voltage ($V_{dc\ start}$)	V	80			80			80		
	Usable MPP voltage range	V	65 - 530			65 - 530			65 - 480		
			MPPT1	MPPT2		MPPT1	MPPT2		MPPT1	MPPT2	
	Max. usable input current ($I_{dc\ max}$)	A	22	12		22	12		22	12	
	Max. module array short circuit current ($I_{sc\ pv}$) [1]	A	36	19		36	19		36	19	
	Number of DC connections		2	2		2	2		2	2	
			MPPT1	MPPT2	Total	MPPT1	MPPT2	Total	MPPT1	MPPT2	Total
	Max. usable DC output	W	4,750	4,750	4,750	5,170	5,170	5,170	6,200	5,760	6,200
	Max. PV generator output	Wpeak	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
	Nominal AC output current (@ 220/230 V)	A	20.9	20	22.7	21.7	27.3	26.1
	Grid connection ($V_{ac,r}$)	V	1~ NPE 220/230 (+20%/-30%)					
	Frequency (frequency range f_{min} - f_{max})	Hz	50/60 (45 - 65)					
	Total harmonic distortion	%	< 2					
	Power factor (cos $\varphi_{ac,r}$)		0.8 - 1 ind./cap.					

Output data PV Point	Nominal output power PV Point	VA	3,000	3,000	3,000
	PV Point grid connection	V	1~ NPE 220/230		
	Switchover time	sec.	< 20		

Output data Full Backup [2]	Nominal Full Backup output power	VA	4,600	5,000	6,000
	Full Backup grid connection	V	1~ NPE 220/230		
	Switchover time	sec.	< 35		

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		1 × BATT+ and 1× BATT- push-in spring-loaded terminals 2.5 - 10 mm²		
	Max. DC input/output power [4]	W	4,750	5,170	6,200
	Max. charging power with AC coupling [4]	W	4,600	5,000	6,000
	Compatible batteries [5]		BYD Battery-Box Premium HVS/HVM, LG RESU FLEX [6]		

[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 3.0–6.0 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 the connected battery*
[5] *Depending on country-specific certification and availability*
[6] *Excluding BYD Battery-Box Premium HVS 10.2, HVS 12.8, HVM 8.3, HVM 22.1 and LG RESU FLEX 17.2*

			Primo GEN24 Plus		
			4.6	5.0	6.0
General data	Dimensions (height x width x depth)	mm	530 × 474 × 165		
	Weight (inverter/with packaging)	kg	15.4/19	15.4/19	15.4/19
	Degree of protection		IP 66	IP 66	IP 66
	Safety class		1	1	1
	Night-time consumption	W	< 10	< 10	< 10
	Overvoltage category (DC/AC)[7]		2/3	2/3	2/3
	Inverter concept		Transformerless		
	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	m	4,000	4,000	4,000
	DC PV connection technology		4 × DC+ and 4 × DC- push-in spring-loaded terminals 2.5 - 10 mm²		
	AC connection technology		3-pin AC push-in spring-loaded terminals 2.5 - 10 mm² 3-pin backup power push-in spring-loaded terminals 1.5 - 10 mm² 2 × PE screw terminals 2.5 - 16 mm² and 3 × 2.5 - 10 mm²		
	Certificates and compliance with standards[8]		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		PV Point or Full Backup		
	Country of manufacture		Austria		
	Life cycle analysis		In accordance with ÖNORM EN ISO 14040 and 14044 (checked by Fraunhofer IZM)		
Efficiency	Maximum efficiency	%	97.6	97.6	97.6
	European efficienc (ηEU)	%	97.2	97.2	97.1
	MPP adjustment efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	Overload performance		Operating point adjustment, power limitation		
	DC disconnector		Integrated		
	Reverse polarity protection		Integrated		
Interfaces	WLAN / 2 × Ethernet LAN		Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON)		
	6 digital inputs 6 digital inputs/outputs		Interface to ripple control receiver, energy management		
	Emergency shutdown (WSD)		Integrated		
	Datalogger and web server		Integrated		
	2 × RS485		Modbus RTU SunSpec (third-party provider) / Fronius Smart Meter, Battery, Fronius Ohmpilot		

[7] *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*

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For more information, visit: www.fronius.com/gen24-inverter

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