Fronius Primo
GEN24 Plus

Designed to empower.

Product advantages

01 Maximum flexibility
02 Backup power for every situation
03 Easy installation
04 Support and 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

Save time and money: fast and safe installation with 180° quick-fastener screws, push-in spring terminals, and a well-designed wall assembly system.

04 Support and tools

Never-ending support: free and efficient Fronius solutions are available for planning, installation, and system monitoring. This increases customer satisfaction and minimizes maintenance effort.

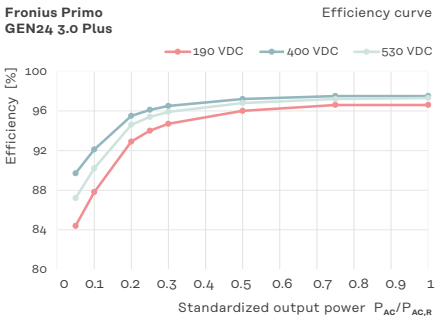
Fronius GEN24 Plus* | Backup power versions | Battery connection

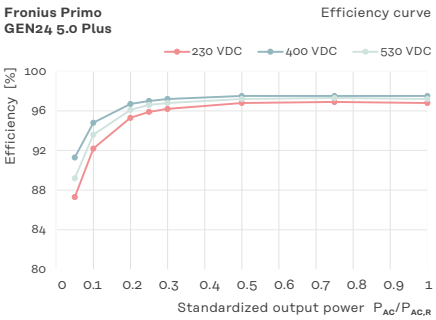
** The Full Backup option is available for the Primo GEN24 3.0–6.0 Plus and the Symo GEN24 6.0–10.0 Plus.*

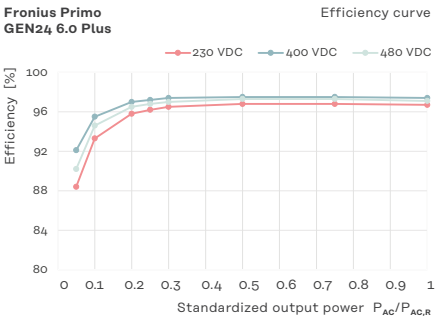
Impressive power data

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

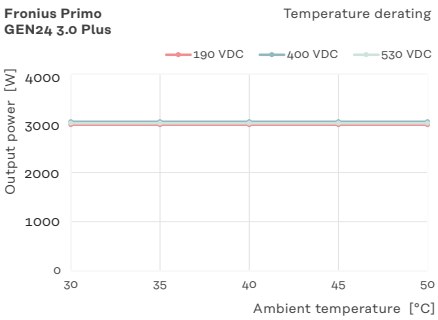
Efficiency

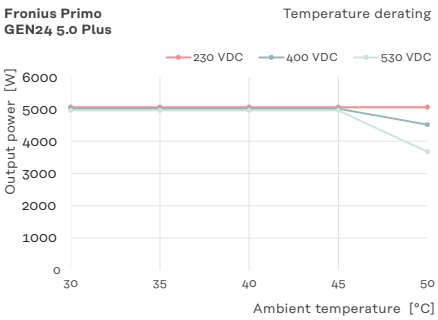


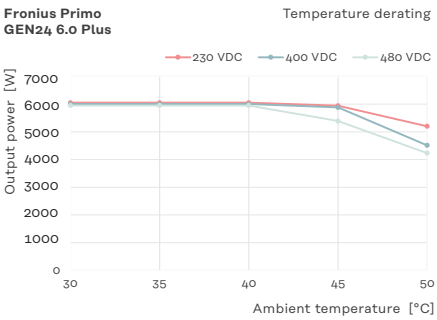




Power derating







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 ($U_{dc\ min}$ - $U_{dc\ max}$)	V	65 - 600			65 - 600			65 - 600		
	Nominal 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		
			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	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 power	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	
	Nom. AC output current (@ 220/230 V)	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								
	Power factor ($\cos \varphi_{ac,r}$)		0.8 - 1 ind./cap.								
Output data PV Point	Nom. output power PV Point	VA	3,000			3,000			3,000		
	Grid connection PV Point	V	1~ NPE 220/230								
	Switching time	sec.	< 20								
Output data Full Backup[2]	Nom. output power Full Backup	VA	3,000			3,600			4,000		
	Grid connection Full Backup	V	1~ NPE 220/230								
	Switching 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		1x BATT+ and 1x BATT- push-in spring terminals 2.5 - 10 mm²								
	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]		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 connected battery*

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

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

			Primo 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)[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 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 mm²		
	AC connection technology		3-pin AC push-in spring terminals 2.5 - 10 mm² 3-pin backup power push-in spring terminals 1.5 - 10 mm² 2x PE screw terminals 2.5–16 mm² and 3x 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 employees from Fraunhofer IZM)		
Efficiency	Max. efficiency	%	97.6	97.6	97.6
	Euro. efficiency (ηEU)	%	96.8	97.0	97.1
	MPP adaptation efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	Overload performance		Operating point shift, power limiter		
	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		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, 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 ($U_{dc\ min}$ - $U_{dc\ max}$)	V	65 - 600			65 - 600			65 - 600		
	Nominal 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		
			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	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 power	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	
	Nom. AC output current (@ 220/230 V)	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								
	Power factor ($\cos \varphi_{ac,r}$)		0.8 - 1 ind./cap.								
Output data PV Point	Nom. output power PV Point	VA	3,000			3,000			3,000		
	Grid connection PV Point	V	1~ NPE 220/230								
	Switching time	sec.	< 20								
Output data Full Backup[2]	Nom. output power Full Backup	VA	4,600			5,000			6,000		
	Grid connection Full Backup	V	1~ NPE 220/230								
	Switching 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		1x BATT+ and 1x BATT- push-in spring terminals 2.5 - 10 mm²								
	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]		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 connected battery*
[5] *Depending on the country-specific certification and availability*
[6] *Excluding BYD Battery-Box Premium HVS 10.2, HVS 12.8, HVM 8.3, HVM 22.1 & LG RESU FLEX 17.2*

			Primo 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)[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 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 mm²		
	AC connection technology		3-pin AC push-in spring terminals 2.5 - 10 mm² 3-pin backup power push-in spring terminals 1.5 - 10 mm² 2x PE screw terminals 2.5–16 mm² and 3x 2.5 - 10 mm²		
	Certificates and compliance with standards[8]		IEC 62109, IEC 62909, AS/NZS 4777.2, CEI 0-21, ABNT BNR 16149 and 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 employees from Fraunhofer IZM)		
Efficiency	Max. efficiency	%	97.6	97.6	97.6
	Euro. efficiency (ηEU)	%	97.2	97.2	97.1
	MPP adaptation efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	Overload performance		Operating point shift, power limiter		
	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		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, 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*