

Fronius Symo GEN24 and GEN24 Plus



Designed to empower.

For further information, please visit

www.fronius.com/gen24-inverter

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Fronius Symo
GEN24 and
GEN24 Plus

Product advantages

- 01 Backup power for every situation
- 02 Built-in freedom
- 03 Versatility as standard
- 04 Maximum independence

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 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.

2

The Fronius GEN24 is
available in two versions:

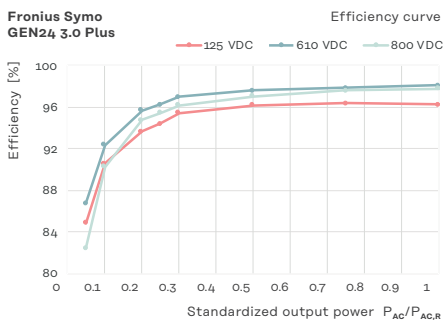
- As an inverter: **Fronius GEN24**
integrated backup power function
- As a hybrid inverter: **Fronius GEN24 Plus**
battery connection
two backup power options

Impressive power data

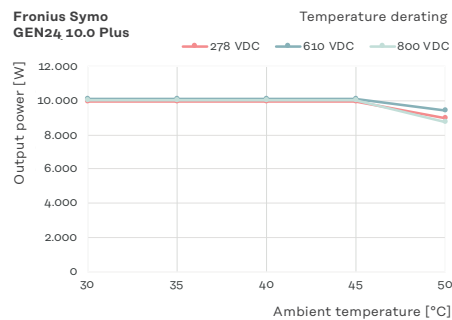
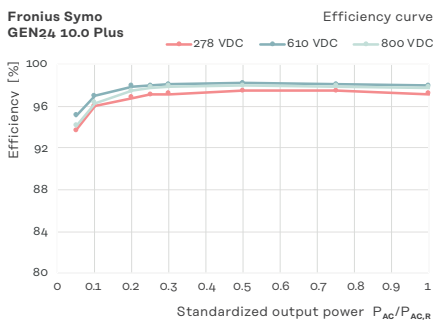
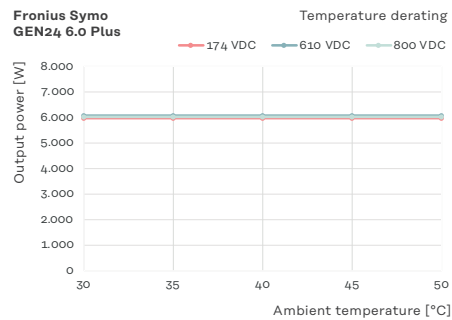
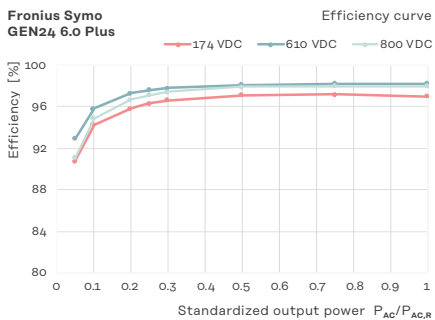
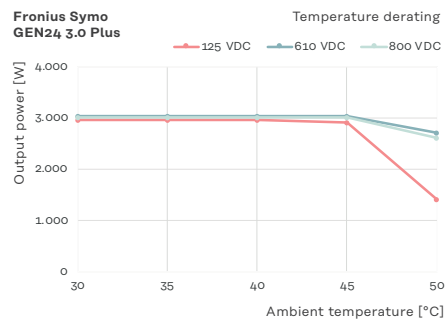
The Fronius GEN24 Plus impress with premium efficiency and maximum power at high temperatures.



Efficiency



Power derating



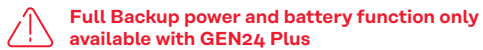
Technical data

3.0/4.0/5.0 kW

			Symo GEN24 Plus							
			3.0		4.0		5.0			
Input data	Number of MPP trackers		2		2		2			
	DC input voltage range (U _{dc min} - U _{dc max})	V	80 - 1,000		80 - 1,000		80 - 1,000			
	Nominal input voltage (U _{dc,r})	V	610		610		610			
	Feed-in start-up input voltage (U _{dc start})	V	80		80		80			
	Usable MPP voltage range	V	80 - 800		80 - 800		80 - 800			
	MPP voltage range (at rated power) (U _{mpp min} - U _{mpp max})	V	125 - 800		170 - 800		210 - 800			
			MPPT1	MPPT2	MPPT1	MPPT2	MPPT1	MPPT2		
	Max. usable input current (I _{dc max})	A	12.5	12.5	12.5	12.5	12.5	12.5		
	Max. array short circuit current (I _{sc pv}) ¹	A	20	20	20	20	20	20		
	Number of DC connections		2	1	2	1	2	1		
			MPPT1	MPPT2	Total	MPPT1	MPPT2	Total	MPPT1	MPPT2
Max. usable DC power	W	3,150	3,150	3,150	4,180	4,180	4,180	5,200	5,200	5,200
Max. PV generator output	W _{peak}	4,500	4,500	4,500	6,000	6,000	6,000	6,500	6,500	7,500

Output data	AC rated power (P _{ac,r})	W	3,000		4,000		5,000	
	Apparent power	VA	3,000		4,000		5,000	
	Max. output power	VA	3,000		4,000		5,000	
			380 Vac	400 Vac	380 Vac	400 Vac	380 Vac	400 Vac
	Nom. AC output current	A	4.5	4.3	6.1	5.8	7.6	7.2
	Grid connection (U _{ac,r})	V	3~ NPE 400/230 or 3~ NPE 380/220 (+20%/-30%)					
	Frequency (frequency range f _{min} - f _{max})	Hz	50/60 (45 - 65)					
	Total harmonic distortion	%	< 3.0		< 3.0		< 3.0	
Power factor (cos φ _{ac,r})		0.7 - 1 ind. / cap.						

Output data PV Point	Nom. output power PV Point (Comfort)	VA	3,000		3,000		3,000	
	Grid connection PV Point (Comfort)	V	1~ NPE 220/230					
	Switching time	sec.	< 23		< 23		< 23	



			Symo GEN24 Plus					
			3.0		4.0		5.0	
Output data Full Backup ²	Nom. output power Full Backup	VA	The Full Backup power function is available for the Symo GEN24 6.0-10.0 Plus.					
	Grid connection Full Backup	V						
	Switching time	sec.						

Battery connection	Number of DC inputs		1		1		1	
	Max. input current (I _{dc max})	A	12,5		12,5		12,5	
	DC input voltage range (U _{dc min} - U _{dc max})	V	160 - 531		160 - 531		160 - 531	
	DC battery connection technology		1 × BATT+ and 1 × BATT- push-in spring terminals 2.5 - 10 mm ²					
	Max. DC input/output power ³	W	3,150		4,180		5,200	
	Max. charging power for AC coupling ³	W	3,000		4,000		5,000	
	Compatible batteries ⁴		BYD Battery-Box Premium HVS/HVM & LG FLEX ⁵					

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 Symo GEN24 6.0-10.0 Plus. Additional external components for grid switchover are required for the Full Backup. See the Operating Instructions for further details.

³ Depending on connected battery

⁴ Depending on the country-specific certification and availability

⁵ Excluding BYD Battery-Box Premium, HVS 12.8, HVM 8.3

			Symo GEN24 Plus		
			3.0	4.0	5.0
General data	Dimensions (height × width × depth)	mm	530 × 474 × 165		
	Weight (inverter/with packaging)	kg	15.6/19,4	15.6/19,4	15.6/19,4
	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	-25 to +60	-25 to +60	-25 to +60
	Permissible humidity	%	0 - 100	0 - 100	0 - 100
	Noise emissions	dB (A)	< 36	< 36	< 36
	Max. altitude above sea level	m	3,000/4,000 (unrestricted/restricted voltage range)		
	DC connection technology PV		3 × DC+ and 3 × DC- push-in spring terminals 2.5 - 10 mm ²		
	AC connection technology		5-pin AC push-in spring terminals 1.5 - 10 mm ² 3-pin backup power push-in spring terminals 1.5 - 10 mm ² 5 × PPE screw terminals 2.5 - 16 mm ²		
	Certificates and compliance with standards ⁷		IEC 62109, IEC 62116, IEC 61727, IEC 62909, VDE 0126, VDE AR-N4105, AS/NZS 4777.2, EN 50549, CEI 0-21, G98/G99, R25		
Backup power functions		PV Point (Comfort)			
Life cycle analysis		In accordance with ÖNORM EN ISO 14040 and 14044 (checked by employees from Fraunhofer IZM)			
Efficiency	Max. efficiency	%	98.1	98.2	98.2
	Euro. efficiency (η _{EU})	%	96.7	97.2	97.5
	MPP adaptation efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	DC disconnecter		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 (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/symo-gen24-plus-cert

Technical data

6.0/8.0/10.0 kW

			Symo GEN24 Plus								
			6.0		8.0		10.0				
Input data	Number of MPP trackers		2		2		2				
	DC input voltage range (U _{dc} min - U _{dc} max)	V	80 - 1,000		80 - 1,000		80 - 1,000				
	Nominal input voltage (U _{dc,r})	V	610		610		610				
	Feed-in start-up input voltage (U _{dc} start)	V	80		80		80				
	Usable MPP voltage range	V	80 - 800		80 - 800		80 - 800				
	MPP voltage range (at rated power) (U _{mpp} min - U _{mpp} max)	V	174 - 800		224 - 800		278 - 800				
			MPPT1	MPPT2	MPPT1	MPPT2	MPPT1	MPPT2			
	Max. usable input current (I _{dc} max)	A	25	12.5	25	12.5	25	12.5			
	Max. array short circuit current (I _{sc} pv) ¹	A	40	20	40	20	40	20			
	Number of DC connections		2	1	2	1	2	1			
			MPPT1	MPPT2	Total	MPPT1	MPPT2	Total	MPPT1	MPPT2	Total
	Max. usable DC power	W	6,220	6,000	6,220	8,260	6,000	8,260	10,300	6,000	10,300
Max. PV generator output	W _{peak}	7,500	6,500	9,000	10,000	7,000	12,000	12,500	7,500	15,000	

Output data	AC rated power (P _{ac,r})	W	6,000		8,000		10,000				
	Apparent power	VA	6,000		8,000		10,000				
	Max. output power	VA	6,000		8,000		10,000				
			380 Vac	400 Vac	380 Vac	400 Vac	380 Vac	400 Vac			
	Nom. AC output current	A	9.1	8.7	12.1	11.6	15.2	14.5			
	Grid connection (U _{ac,r})	V	3~ NPE 400/230 or 3~ NPE 380/220 (+20%/-30%)								
	Frequency (frequency range f _{min} - f _{max})	Hz	50/60 (45 - 65)								
	Total harmonic distortion	%	< 3		< 3		< 3				
Power factor (cos φ _{ac,r})		0.7 - 1 ind. / cap.									

Output data PV Point	Nom. output power PV Point (Comfort)	VA	3,000		3,000		3,000				
	Grid connection PV Point (Comfort)	V	1~ NPE 220/230								
	Switching time	sec.	< 23		< 23		< 23				



Full Backup power and battery function only available with GEN24 Plus

			Symo GEN24 Plus								
			6.0		8.0		10.0				
Output data Full Backup ²	Nom. output power Full Backup	VA	6,000		8,000		10,000				
	Nominal Full Backup phase power	VA	3,680		3,680		3,680				
	Grid connection Full Backup	V	3~ NPE 400/230 or 3~ NPE 380/220								
	Switching time	sec.	< 35		< 35		< 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)	V	160 - 531		160 - 531		160 - 531				
	DC battery connection technology		1x BATT+ and 1x BATT- push-in spring terminals 2.5 - 10 mm ²								
	Max. DC input/output power ³	W	6,220		8,260		10,300				
	Max. charging power for AC coupling ³	W	6,000		8,000		10,000				
	Compatible batteries ⁴		BYD Battery-Box Premium HVS/HVM & LG FLEX ⁵								

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 Symo GEN24 6.0–10.0 Plus. Additional external components for grid switchover are required for the Full Backup. See the Operating Instructions for further details.

³ Depending on connected battery

⁴ Depending on the country-specific certification and availability

⁵ Excluding BYD Battery-Box Premium, HVS 12.8, HVM 8.3

			Symo GEN24 Plus		
			6.0	8.0	10.0
General data	Dimensions (height × width × depth)	mm	595 × 529 × 180		
	Weight (inverter/with packaging)	kg	23.4/28.5	23.4/28.5	23.4/28.5
	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	-25 to +60	-25 to +60	-25 to +60
	Permissible humidity	%	0 - 100	0 - 100	0 - 100
	Noise emissions	dB (A)	< 47	< 47	< 47
	Max. altitude above sea level	m	3,000/4,000 (unrestricted/restricted voltage range)		
	DC connection technology PV		3 × DC+ and 3 × DC- push-in spring terminals 2.5 - 10 mm ²		
	AC connection technology		5-pin AC push-in spring terminals 1.5 - 10 mm ² 3-pin backup power push-in spring terminals 1.5 - 10 mm ² 5 × PPE screw terminals 2.5 - 16 mm ²		
	Certificates and compliance with standards ⁷		IEC 62109, IEC 62116, IEC 61727, IEC 62909, VDE 0126, VDE AR-N4105, AS/NZS 4777.2, EN 50549, CEI 0-21, G98/G99, R25		
Backup power functions ⁸		PV Point (Comfort) or Full Backup			
Life cycle analysis		In accordance with ÖNORM EN ISO 14040 and 14044 (checked by employees from Fraunhofer IZM)			
Efficiency	Max. efficiency	%	98.2	98.2	98.2
	Euro. efficiency (η _{EU})	%	97.7	97.8	97.9
	MPP adaptation efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	DC disconnecter		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 (GEN24 Plus), Fronius Ohmpilot		

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⁷ You can find the current certificates under www.fronius.com/symo-gen24-plus-cert

⁸ Full Backup power ist only available with GEN24 Plus.