



Designed to empower.



Fronius Symo
GEN24 and
GEN24 Plus

Product Advantages

- 01 Backup Power for Every Situation
- 02 Built-in Freedom
- 03 Versatility as Standard
- 04 Sustainably Future-proof
- 05 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 the energy management functions of the Fronius GEN24 and Fronius GEN24 Plus, you 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: Thanks to the Fronius UP.storage** software upgrade, your device can be retrofitted with 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.

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

** Available in the Fronius webshop in select countries.

2

The Fronius GEN24 is
available in two versions:

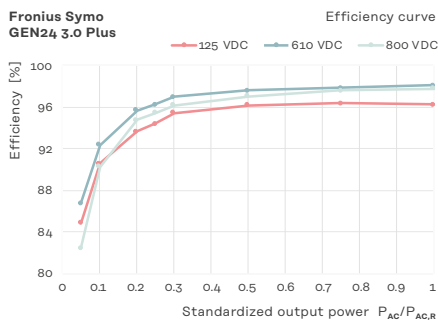
- As an inverter: **Fronius GEN24**
integrated backup power function
- As a hybrid inverter: **Fronius GEN24 Plus**
battery connection
two backup power options

Impressive Power Data

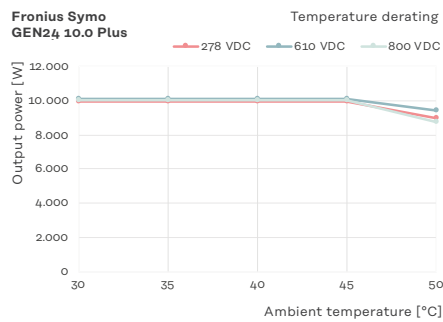
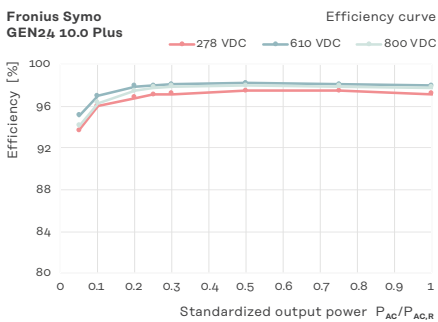
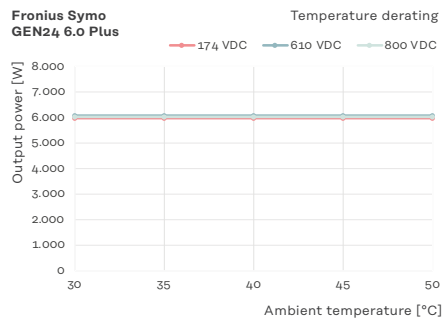
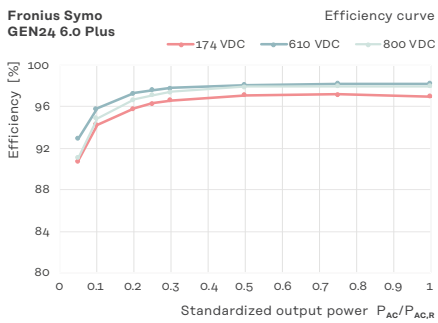
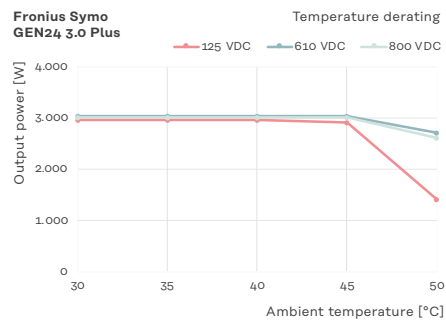
The Fronius GEN24 and Fronius GEN24 Plus impress with premium efficiency and maximum power at high temperatures.



Efficiency



Power derating



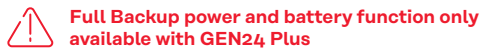
Technical data

3.0/4.0/5.0 kW

			Symo GEN24/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	Total
	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	VA	3,000		3,000		3,000	
	Grid connection PV Point	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/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
	Inverter concept		Transformerless		
	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			
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		
	Overload performance		Operating point shift, power limiter		
	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

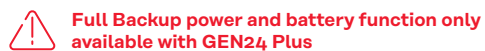
Technical data

6.0/8.0/10.0 kW

			Symo GEN24/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	VA	3,000			3,000			3,000	
	Grid connection PV Point	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/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
	Inverter concept		Transformerless		
	Cooling		Active Cooling technology		
	Installation		Indoor and outdoor installation		
	Ambient temperature range	°C	-25 to +60	-25 to +60	to
	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 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		
	Overload performance		Operating point shift, power limiter		
	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

⁸ Full Backup power ist only available with GEN24 Plus.

Fronius Symo GEN24 and GEN24 Plus



Designed to empower.

For further information, please visit

www.fronius.com/gen24-inverter

Fronius International GmbH
Froniusplatz 1
4600 Wels
Austria
pv-sales@fronius.com
www.fronius.com

Text and illustrations were accurate at the time of printing.
Fronius reserves the right to make changes. All information published in this document, despite exercising the greatest of care in its preparation, is subject to change. No legal liability is accepted. Copyright © 2023 Fronius™. All rights reserved.

EN V01 Sep 2023