Fronius Symo
GEN24 / GEN24 Plus

Designed to empower.

Product advantages

01 Maximum flexibility
02 Backup power for every situation
03 Built-in freedom
04 Easy to install
05 Support & tools

Sustainable, reliable, future-proof: With our Fronius GEN24 inverter as the core of a PV system, you can produce your own energy flexibly and cheaply. The Fronius GEN24 Plus hybrid inverter even enables the connection of a battery storage system so that you can use the solar energy you produce for electricity, heating, cooling and e-mobility. Full solar power for your personal energy revolution with the **Fronius GEN24** and **Fronius GEN24 Plus. Designed to empower.**

The core of the PV system

01 Maximum flexibility

With the Fronius GEN24 or Fronius GEN24 Plus as the core of your PV system, you will not only be starting your own energy revolution, you will also gain access to all the possibilities and advantages of solar energy. With "Fronius UP", your PV system becomes even more flexible. A software update turns the Fronius GEN24 into our Fronius GEN24 Plus hybrid inverter.

02 Backup power for every situation

Reliable energy supply: The Fronius GEN24 offers with "PV Point" an integrated basic backup power function. With the Fronius GEN24 Plus, you can choose "PV Point" or, with "Full Backup"*, a backup power supply for the entire household.

03 Built-in freedom

The Fronius GEN24 and Fronius GEN24 Plus have open interfaces. This means third-party components can be easily integrated in the system – for a customised PV system.

04 Easy to install

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

05 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 is available in two versions:

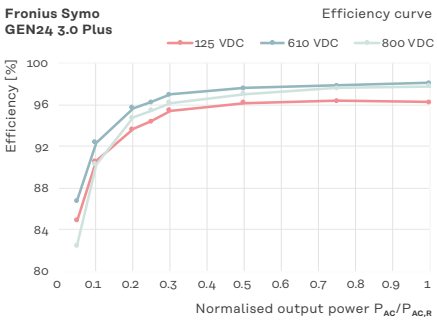
– Inverter: **Fronius GEN24**

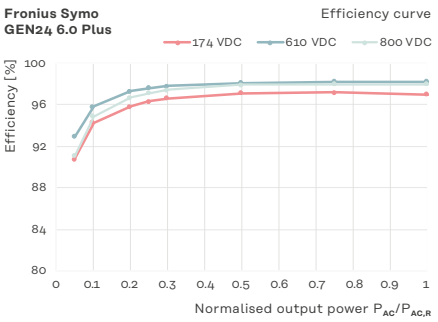
– Hybrid inverter: **Fronius GEN24 Plus**

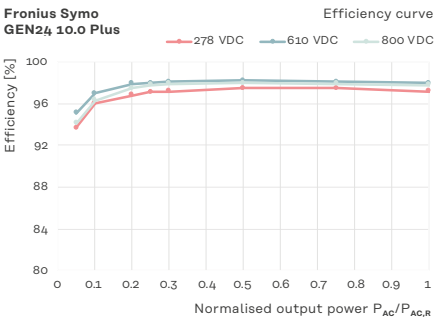
Impressive performance data

The Fronius GEN24 and Fronius GEN24 Plus stand out thanks to maximum efficiency and maximum output at high temperatures.

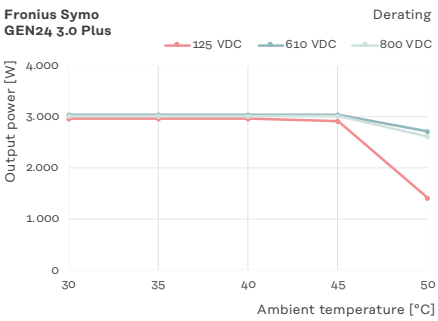
Efficiency

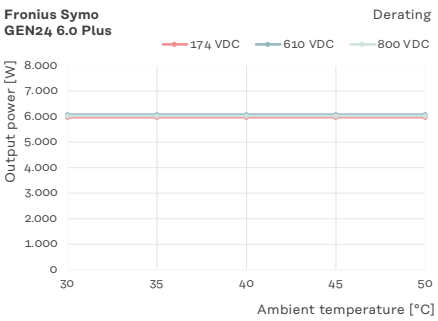


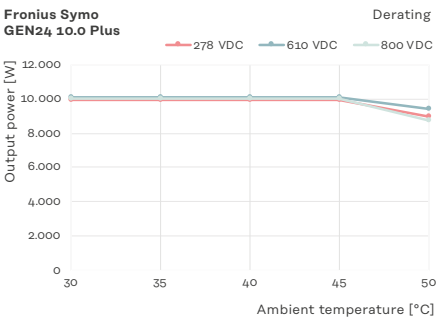




Power derating







* *Available on the Fronius Symo GEN24 Plus*

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 ($V_{DC\ min}$ - $V_{DC\ max}$)	V	80 - 1,000			80 - 1,000			80 - 1,000		
	Nominal input voltage ($V_{DC,r}$)	V	610			610			610		
	Feed-in start voltage ($V_{DC\ start}$)	V	80			80			80		
	Usable MPP voltage range	V	80 - 800			80 - 800			80 - 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. module 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 output	W	3,150	3,150	3,150	4,180	4,180	4,180	5,200	5,200	5,200
	Max. PV generator output	Wpeak	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
	Nominal AC output current (@ 220/230 V)	A	4.5	4.3	6.1	5.8	7.6	7.2
	Grid connection ($V_{AC,r}$)	V	3~ EN 400/230 OR 3~ EN 380/220 (+20%/-30%)					
	Frequency (frequency range f_{min} - f_{max})	Hz	50/60 (45 - 65)					
	Total harmonic distortion	%	< 3.5		< 3.5		< 3.5	
	Power factor ($\cos \varphi_{ac,r}$)		0.7 - 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~ EN 220/230		
	Switchover time	sec.	< 20	< 20	< 20

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

			Symo GEN24 Plus		
			3.0	4.0	5.0
Output data Full Backup[2]	Nominal Full Backup output power	VA	The Full Backup emergency power function is available for the Symo GEN24 6.0-10.0 Plus.		
	Full Backup grid connection	V			
	Nominal Full Backup phase power	VA			
	Switchover 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 tension clamp terminals 2.5 - 10 mm²		
	Max. DC input/output power[3]	W	3,150	4,180	5,200
	Max. charging power with AC coupling[3]	W	3,000	4,000	5,000
	Compatible batteries[4]		BYD Battery-Box Premium HVS/HVM[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] *Dependent on the connected battery*
[4] *Depending on country-specific certification and availability*
[5] *Excluding BYD Battery-Box Premium HVS 12.8 and 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
	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)[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)	< 47	< 47	< 47
	Max. altitude	m	3,000/4,000 (unrestricted/restricted voltage range)		
	DC PV connection technology		3 × DC+ and 3 × DC- push-in tension clamp terminals 2.5 - 10 mm²		
	AC connection technology		3-pin AC push-in tension clamp terminals 1.5 - 10 mm² 3-pin backup power push-in tension clamp terminals 1.5 - 10 mm² 5 × PE screw terminals 2.5 - 16 mm²		
	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, R25		
	Backup power functions[8]		PV Point and Full Backup		
	Producing country		Austria		
	Life Cycle Assessment		According to ÖNORM EN ISO 14040 and 14044 (verified by employees of Fraunhofer IZM)		
Efficiency	Maximum efficiency	%	98.2	98.2	98.2
	European efficiency (ηEU)	%	97.7	97.8	97.9
	MPP adjustment efficiency	%	> 99.9	> 99.9	> 99.9
Protective devices	DC isolation measurement		Integrated		
	Overload performance		Operating point adjustment, power limitation		
	DC disconnector		Integrated		
	Reverse polarity protection		Integrated		
Interfaces	Wi-Fi / 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 (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 emergency power and battery function only available with GEN24 Plus*

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

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 ($V_{DC\ min}$ - $V_{DC\ max}$)	V	80 - 1,000			80 - 1,000			80 - 1,000		
	Nominal input voltage ($V_{DC,r}$)	V	610			610			610		
	Feed-in start voltage ($V_{DC\ start}$)	V	80			80			80		
	Usable MPP voltage range	V	80 - 800			80 - 800			80 - 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. module 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 output	W	6,220	6,000	6,220	8,260	6,000	8,260	10,300	6,000	10,300
	Max. PV generator output	Wpeak	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
	Nominal AC output current (@ 220/230 V)	A	9.1	8.7	12.1	11.6	15.2	14.5
	Grid connection ($V_{AC,r}$)	V	3~ EN 400/230 OR 3~ EN 380/220 (+20%/-30%)					
	Frequency (frequency range f_{min} - f_{max})	Hz	50/60 (45 - 65)					
	Total harmonic distortion	%	< 3.5		< 3.5		< 3.5	
	Power factor ($\cos \varphi_{ac,r}$)		0.7 - 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~ EN 220/230		
	Switchover time	sec.	< 20	< 20	< 20

⚠ **Full Backup emergency power and battery function only available with GEN24 Plus**

			Symo GEN24 Plus		
			6.0	8.0	10.0
Output data Full Backup [2]	Nominal Full Backup output power	VA	6,000	8,000	10,000
	Nominal Full Backup phase power	VA	3,680	3,680	3,680
	Full Backup grid connection	V	3~ EN 400/230 OR 3~ EN 380/220		
	Switchover 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		1 × BATT+ and 1 × BATT- push-in tension clamp terminals 2.5 - 10 mm²		
	Max. DC input/output power [3]	W	6,220	8,260	10,300
	Max. charging power with AC coupling [3]	W	6,000	8,000	10,000
	Compatible batteries [4]		BYD Battery-Box Premium HVS/HVM [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] *Dependent on the connected battery*
[4] *Depending on country-specific certification and availability*
[5] *Excluding BYD Battery-Box Premium HVS 12.8 and HVM 8.3*

Fronius GEN24. Designed to empower.

			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
	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)[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)	< 47	< 47	< 47
	Max. altitude	m	4,000	4,000	4,000
	DC PV connection technology		4 × DC+ and 4 × DC- push-in tension clamp terminals 2,5 - 10 mm²		
	AC connection technology		3-pin AC push-in tension clamp terminals 2.5 - 10 mm² 3-pin backup power push-in tension clamp terminals 1.5 - 10 mm² 2 × PE screw terminals 2.5 - 16 mm² and 3 × 2.5 - 10 mm²		
	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, R25		
	Backup power functions [8]		PV Point and Full Backup		
	Producing country		Austria		
	Life Cycle Assessment		According to ÖNORM EN ISO 14040 and 14044 (verified by employees of Fraunhofer IZM)		
Efficiency	Maximum efficiency	%	97.6	97.6	97.6
	European efficiency (ηEU)	%	96.8	97.0	97.1
	MPP adjustment efficiency	%	> 99.9	> 99.9	> 99.9
Protective devices	DC isolation measurement		Integrated		
	Overload performance		Operating point adjustment, power limitation		
	DC disconnector		Integrated		
	Reverse polarity protection		Integrated		
Interfaces	Wi-Fi / 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 (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 emergency power and battery function only available with GEN24 Plus*

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

More information at www.fronius.com/gen24

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