



# GEN24 SC



Fronius Symo GEN24 SC  
& GEN24 Plus SC 3.0 - 12.0 kW

# Product advantages

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## **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 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 battery connection and therefore 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.

# Technical data

## 3.0 / 4.0 / 5.0 kW

			Symo GEN24 SC / GEN24 Plus SC							
			3.0		4.0		5.0			
Input data	Number of MPP trackers		2		2		2			
	DC input voltage range (U <sub>dc min</sub> - U <sub>dc max</sub> )	V	80 - 1,000		80 - 1,000		80 - 1,000			
	Rated input voltage (U <sub>dc,r</sub> )	V	610		610		610			
	Feed-in start-up input voltage (U <sub>dc start</sub> )	V	80		80		80			
	Usable MPP voltage range	V	80 - 800		80 - 800		80 - 800			
	MPP voltage range (at rated power) (U <sub>mpp min</sub> - U <sub>mpp max</sub> )	V	115 - 800		150 - 800		190 - 800			
			MPPT1	MPPT2	MPPT1	MPPT2	MPPT1	MPPT2		
	Max. usable input current (I <sub>dc max</sub> )	A	14	14	14	14	14	14		
	Max. array short circuit current (I <sub>sc pv</sub> ) <sup>1</sup>	A	20	20	20	20	20	20		
	Number of DC connections		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 <sub>peak</sub>	4,500	4,500	4,500	6,000	6,000	6,000	6,500	6,500	7,500

Output data	AC rated power (P <sub>ac,r</sub> )	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
	Rated AC output current	A	4.5	4.3	6.1	5.8	7.6	7.2
	Grid connection (U <sub>ac,r</sub> )	V	3~ NPE 400/230 or 3~ NPE 380/220 (+20%/-30%)					
	Frequency (frequency range f <sub>min</sub> - f <sub>max</sub> )	Hz	50/60 (45 - 65)					
	Total harmonic distortion	%	< 3.5		< 3.5		< 3.5	
Power factor (cos φ <sub>ac,r</sub> )		0.7 - 1 ind. / cap.						

Output data PV Point	Rated output power PV Point	VA	3,000		3,000		3,000	
	Grid connection PV Point	V	1~ NPE 220/230					
	Switching time	sec.	~15		~15		~15	



**Full Backup power and battery function only available with GEN24 Plus SC.**

			Symo GEN24 Plus SC					
			3.0		4.0		5.0	
Output data Full Backup <sup>2</sup>	Rated output power Full Backup	VA	The Full Backup power supply function is available for Symo GEN24 6.0-12.0 Plus SC.					
	Nominal Full Backup phase power	VA						
	Grid connection Full Backup	V						
	Switching time	sec.						

Battery connection	Number of DC inputs		1		1		1	
	Max. input current (I <sub>dc max</sub> )	A	14		14		14	
	DC input voltage range (U <sub>dc min</sub> - U <sub>dc max</sub> )	V	160 - 700		160 - 700		160 - 700	
	DC battery connection technology		1x BATT+ and 1x BATT- push-in spring terminals 2.5 - 10 mm <sup>2</sup>					
	Max. DC input/output power <sup>3</sup>	W	3,300		4,300		5,300	
	Max. charging power for AC coupling <sup>3</sup>	W	3,000		4,000		5,000	
Compatible batteries <sup>4</sup>		Fronius Reserva & BYD Battery-Box HVS/HVM, HVS+/HVM+ & LG FLEX						

<sup>1</sup> I<sub>sc pv</sub> = I<sub>sc max</sub> >= I<sub>sc</sub> (STC) x 1,25 according to e.g. IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.

<sup>2</sup> Additional external components for grid switchover are required for the Full Backup. See the Operating Instructions for further details.

<sup>3</sup> Depending on connected battery

<sup>4</sup> Compatibility with the Fronius GEN24 Plus varies depending on the battery storage type and capacity class, country-specific certification and availability. More information: [www.fronius.com/battery-overview](http://www.fronius.com/battery-overview)

			Symo GEN24 SC / GEN24 Plus SC		
			3.0	4.0	5.0
General data	Dimensions (height × width × depth)	mm	530 x 474 x 165		
	Weight (inverter/with packaging)	kg	15.3 / 19.1	15.3 / 19.1	15.3 / 19.1
	Protection class		IP 66	IP 66	IP 66
	Safety class		1	1	1
	Night consumption	W	<10	<10	<10
	Overvoltage category (DC/AC) <sup>5</sup>		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 <sup>2</sup>		
	AC connection technology		5-pin AC push-in spring terminals 1.5 - 10 mm <sup>2</sup> 3-pin backup power push-in spring terminals 1.5 - 10 mm <sup>2</sup> 5 × PPE screw terminals 2.5 - 16 mm <sup>2</sup>		
	Certificates and compliance with standards <sup>6</sup>		IEC 62109, IEC 62116, IEC 61727, IEC 62909, VDE AR-N4105, AS/NZS 4777.2, EN 50549, CEI 0-21, G 98, R25		
Backup power functions <sup>7</sup>		PV Point (Comfort)			
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	%	98.1	98.1	98.1
	Euro. efficiency (η <sub>EU</sub> )	%	96.7	97.2	97.5
	MPP adaptation efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	DC disconnect		Integrated		
	Reverse polarity protection		Integrated		
	Arc Detection Arc Guard Technology		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		


<sup>5</sup> 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

<sup>6</sup> You can find the current certificates under [www.fronius.com/symo-gen24-plus-cert](http://www.fronius.com/symo-gen24-plus-cert)

<sup>7</sup> Full Backup power is only available with GEN24 Plus SC.

# Technical data

## 6.0 / 8.0 / 10.0 kW

			Symo GEN24 SC / GEN24 Plus SC								
			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				
	Rated 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	148 - 800		197 - 800		246 - 800				
			MPPT1	MPPT2	MPPT1	MPPT2	MPPT1	MPPT2			
	Max. usable input current ( $I_{dc\ max}$ )	A	28	14	28	14	28	14			
	Max. array short circuit current ( $I_{sc\ pv}$ ) <sup>1</sup>	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	6,180	6,180	6,180	8,240	8,240	8,240	10,300	8,600	10,300
Max. PV generator output	W <sub>peak</sub>	7,500	7,500	9,000	10,000	8,500	12,000	12,500	9,000	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			
	Rated 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	%	< 3.5		< 3.5		< 3.5				
Power factor ( $\cos \varphi_{ac,r}$ )		0.7 - 1 ind. / cap.									
Output data PV Point	Rated output power PV Point	VA	3,000		3,000		3,000				
	Grid connection PV Point	V	1~ NPE 220/230								
	Switching time	sec.	~15		~15		~15				
 Full Backup power and battery function only available with GEN24 Plus SC.			Symo GEN24 Plus SC								
			6.0		8.0		10.0				
	Output data Full Backup <sup>2</sup>	Rated output power Full Backup	VA	6,000		8,000		10,000			
		Nominal Full Backup phase power	VA	4,225		4,225		4,225			
Grid connection Full Backup		V	3~ NPE 400/230 or 3~ NPE 380/220								
Switching time		sec.	~10		~10		~10				
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 - 700		160 - 700		160 - 700				
	DC battery connection technology		1x BATT+ and 1x BATT- push-in spring terminals 2.5 - 10 mm <sup>2</sup>								
	Max. DC input/output power <sup>3</sup>	W	6,220		8,260		10,300				
	Max. charging power for AC coupling <sup>3</sup>	W	6,000		8,000		10,000				
Compatible batteries <sup>4</sup>		Fronius Reserva & BYD Battery-Box HVS/HVM, HVS+/HVM+ & LG FLEX									

<sup>1</sup>  $I_{sc\ pv} = I_{sc\ max} \gg I_{sc} (STC) \times 1,25$  according to e.g. IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.

<sup>2</sup> Additional external components for grid switchover are required for the Full Backup. See the Operating Instructions for further details.

<sup>3</sup> Depending on connected battery

<sup>4</sup> Compatibility with the Fronius GEN24 Plus varies depending on the battery storage type and capacity class, country-specific certification and availability. More information: [www.fronius.com/battery-overview](http://www.fronius.com/battery-overview)

			Symo GEN24 SC / GEN24 Plus SC		
			6.0	8.0	10.0
General data	Dimensions (height × width × depth)	mm	595 × 529 × 180		
	Weight (inverter/with packaging)	kg	22.8 / 28.0	22.8 / 28.0	22.8 / 28.0
	Protection class		IP 66	IP 66	IP 66
	Safety class		1	1	1
	Night consumption	W	<10	<10	<10
	Overvoltage category (DC/AC) <sup>5</sup>		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 <sup>2</sup>		
	AC connection technology		5-pin AC push-in spring terminals 1.5 - 10 mm <sup>2</sup> 3-pin backup power push-in spring terminals 1.5 - 10 mm <sup>2</sup> 5 × PPE screw terminals 2.5 - 16 mm <sup>2</sup>		
	Certificates and compliance with standards <sup>6</sup>		IEC 62109, IEC 62116, IEC 61727, IEC 62909, VDE AR-N4105, AS/NZS 4777.2, EN 50549, CEI 0-21, G 98, R25		
Backup power functions <sup>7</sup>		PV Point (Comfort) 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	%	98.3	98.3	98.3
	Euro. efficiency (η <sub>EU</sub> )	%	97.9	98	98,1
	MPP adaptation efficiency	%	> 99.9	> 99.9	> 99.9
Protection devices	DC isolation measurement		Integrated		
	DC disconnect		Integrated		
	Reverse polarity protection		Integrated		
	Arc Detection Arc Guard Technology		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		

<sup>5</sup> 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

<sup>6</sup> You can find the current certificates under [www.fronius.com/symo-gen24-plus-cert](http://www.fronius.com/symo-gen24-plus-cert)

<sup>7</sup> Full Backup power is only available with GEN24 Plus SC.

# Technical data

## 12.0 kW

			Symo GEN24 SC / GEN24 Plus SC		
			12.0		
Input data	Number of MPP trackers		2		
	DC input voltage range (U <sub>dc min</sub> - U <sub>dc max</sub> )	V	80 - 1,000		
	Rated input voltage (U <sub>dc,r</sub> )	V	610		
	Feed-in start-up input voltage (U <sub>dc start</sub> )	V	80		
	Usable MPP voltage range	V	80 - 800		
	MPP voltage range (at rated power) (U <sub>mpp min</sub> - U <sub>mpp max</sub> )	V	295 - 800		
			MPPT1		MPPT2
	Max. usable input current (I <sub>dc max</sub> )	A	28	14	
	Max. array short circuit current (I <sub>sc pv</sub> ) <sup>1</sup>	A	40	20	
	Number of DC connections		2	1	
			MPPT1	MPPT2	Total
	Max. usable DC power	W	12,360	8,600	12,360
Max. PV generator output	W <sub>peak</sub>	14,000	9,000	18,000	

Output data	AC rated power (P <sub>ac,r</sub> )	W	12,000		
	Apparent power	VA	12,000		
	Max. output power	VA	12,000		
			380 Vac		400 Vac
	Rated AC output current	A	18.2	17.4	
	Grid connection (U <sub>ac,r</sub> )	V	3~ NPE 400/230 or 3~ NPE 380/220 (+20%/-30%)		
	Frequency (frequency range f <sub>min</sub> - f <sub>max</sub> )	Hz	50/60 (45 - 65)		
	Total harmonic distortion	%	< 3.5		
	Power factor (cos φ <sub>ac,r</sub> )		0.7 - 1 ind. / cap.		

Output data PV Point	Rated output power PV Point	VA	3,000		
	Grid connection PV Point	V	1~ NPE 220/230		
	Switching time	sec.	~15		



**Full Backup power and battery function only available with GEN24 Plus SC.**

			Symo GEN24 Plus SC		
			12.0		
Output data Full Backup <sup>2</sup>	Rated output power Full Backup	VA	12,000		
	Nominal Full Backup phase power	VA	4,225		
	Grid connection Full Backup	V	3~ NPE 400/230 or 3~ NPE 380/220		
	Switching time	sec.	~10		

Battery connection	Number of DC inputs		1		
	Max. input current (I <sub>dc max</sub> )	A	22		
	DC input voltage range (U <sub>dc min</sub> - U <sub>dc max</sub> )	V	160 - 700		
	DC battery connection technology		1x BATT+ and 1x BATT- push-in spring terminals 2.5 - 10 mm <sup>2</sup>		
	Max. DC input/output power <sup>3</sup>	W	11,682		
	Max. charging power for AC coupling <sup>3</sup>	W	11,682		
	Compatible batteries <sup>4</sup>		Fronius Reserva & BYD Battery-Box HVS/HVM, HVS+/HVM+ & LG FLEX		

<sup>1</sup> I<sub>sc pv</sub> = I<sub>sc max</sub> >= I<sub>sc</sub> (STC) x 1,25 according to e.g. IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.

<sup>2</sup> Additional external components for grid switchover are required for the Full Backup. See the Operating Instructions for further details.

<sup>3</sup> Depending on connected battery

<sup>4</sup> Compatibility with the Fronius GEN24 Plus varies depending on the battery storage type and capacity class, country-specific certification and availability. More information: [www.fronius.com/battery-overview](http://www.fronius.com/battery-overview)

			Symo GEN24 SC / GEN24 Plus SC	
			12.0	
General data	Dimensions (height × width × depth)	mm	595 × 529 × 180	
	Weight (inverter/with packaging)	kg	22.8 / 28.0	
	Protection class		IP 66	
	Safety class		1	
	Night consumption	W	<10	
	Overvoltage category (DC/AC) <sup>5</sup>		2/3	
	Cooling		Active Cooling technology	
	Installation		Indoor and outdoor installation	
	Ambient temperature range	°C	-25 to +60	
	Permissible humidity	%	0 - 100	
	Noise emissions	dB (A)	< 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 <sup>2</sup>	
	AC connection technology		5-pin AC push-in spring terminals 1.5 - 10 mm <sup>2</sup> 3-pin backup power push-in spring terminals 1.5 - 10 mm <sup>2</sup> 5 × PPE screw terminals 2.5 - 16 mm <sup>2</sup>	
	Certificates and compliance with standards <sup>6</sup>		IEC 62109, IEC 62116, IEC 61727, IEC 62909, VDE AR-N4105, AS/NZS 4777.2, EN 50549, CEI 0-21, G 98, R25	
	Backup power functions <sup>7</sup>		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	%	98.2	
	Euro. efficiency (η <sub>EU</sub> )	%	97.9	
	MPP adaptation efficiency	%	> 99.9	
Protection devices	DC isolation measurement		Integrated	
	DC disconnecter		Integrated	
	Reverse polarity protection		Integrated	
	Arc Detection Arc Guard Technology		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	

<sup>5</sup> 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

<sup>6</sup> You can find the current certificates under [www.fronius.com/symo-gen24-plus-cert](http://www.fronius.com/symo-gen24-plus-cert)

<sup>7</sup> Full Backup power is only available with GEN24 Plus SC.

For further information on the availability of the inverters in your country, please visit [www.fronius.com](http://www.fronius.com).

For further information, please visit: [www.fronius.com/en/solar-energy](http://www.fronius.com/en/solar-energy)