



GEN24 SC



Fronius Primo
GEN24 208-240 SC &
GEN24 208-240 Plus SC
3.8 - 6.0 kW

Technical data

3.8/5.0/6.0 kW

3.8/5.0/6.0 kW

			Primo GEN24 208-240 SC & GEN24 208-240 Plus SC									
			3.8			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									
			208 V _{ac}	220 V _{ac}	240 V _{ac}	208 V _{ac}	220 V _{ac}	240 V _{ac}	208 V _{ac}	220 V _{ac}	240 V _{ac}	
	Rated input voltage (U _{dc,r})	V	360	380	400	360	380	400	360	380	400	
	Feed-in start voltage (U _{dc start})	V	80			80			80			
	Usable MPP voltage range	V	65-530			65-530			65-480			
	MPP voltage range (at rated power)	V	190-480			190-480			190-480			
			MPPT1		MPPT2		MPPT1		MPPT2		MPPT1	
	Max. short circuit current per MPPT (I _{sc pv}) ¹	A	44		32		44		32		44	
	Number of DC connections ²		2		2		2		2		2	
			MPPT1	MPPT2	Total	MPPT1	MPPT2	Total	MPPT1	MPPT2	Total	
	Max. usable DC power	W	3,940	3,940	3,940	5,180	5,180	5,180	6,220	6,220	6,220	
Max. PV generator output	W _{peak}	5,700	5,700	5,700	7,500	7,500	7,500	8,000	8,000	9,000		

Output data			208 V _{ac}	220 V _{ac}	240 V _{ac}	208 V _{ac}	220 V _{ac}	240 V _{ac}	208 V _{ac}	220 V _{ac}	240 V _{ac}
	AC rated power (P _{ac,r})	W	3,800	3,800	3,800	5,000	5,000	5,000	5,740	6,000	6,000
	Apparent power	VA	3,800	3,800	3,800	5,000	5,000	5,000	5,740	6,000	6,000
	Max. Output power	VA	3,800	3,800	3,800	5,000	5,000	5,000	5,740	6,000	6,000
	Rated AC output current	A	18.3	17.3	15.8	24	22.7	20.8	27.6	27.3	25
	Mains connection (U _{ac,r})	V	1~NPE 208 V / 220 V / 240 V (-12 / +10%)								
	Frequency (frequency range f _{min} - f _{max})	Hz	50 Hz / 60 Hz (45 Hz – 66 Hz)								
	Distortion factor	%	< 3.5								
	Adjustable power factor		0.8 - 1 ind. / cap.								

Output data PV Point			120 V _{ac}								
	Rated Output power PV Point	VA	1,560								
	Rated AC voltage PV Point	V	1~NPE 120 V / 220 V / 240 V								
	Switching time	sec.	~17								

The Fronius GEN24 SC can be upgraded to a Fronius GEN24 Plus SC hybrid inverter in the future through the UP.storage software upgrade. This upgrade activates battery functionality, enabling the possibility of a Essential Backup power solution. However, external grid switching devices are required for this functionality. The technical specifications for battery operation and Full Backup operation are detailed below:

Essential backup power and battery function only available with Fronius Primo GEN24 Plus SC			Primo GEN24 208-240 Plus SC					
			3.8		5.0		6.0	
Output data essential backup ³			220 V _{ac}	240 V _{ac}	220 V _{ac}	240 V _{ac}	220 V _{ac}	240 V _{ac}
	Rated Output power essential backup	VA	3,800	3,800	5,000	5,000	6,000	6,000
	Mains connection essential backup	V	1~NPE 220 V / 240 V					
	Switching time	sec.	~17					
Battery connection	Number of DC inputs		1					
	Max. Input current (Idc max)	A	22					
	DC input voltage range (Udc min - Udc max)	V	150–465					
	Connection technology DC battery		1x DC+ and 1x DC- spring-type terminals for solid: copper AWG 12-8					
	Max. Charging power with AC coupling ⁴	W	3,800		5,000		6,000	
	Compatible batterie		Renon Xtreme HV 1.0, BYD Battery-Box Premium HVM US					

¹ The combined I_{sc} of each string, multiplied by a factor of 1.25, must be less than or equal to the I_{sc} of the respective MPPT.

² The maximum usable input current of the 3.8kW, 5.0kW, and 6.0kW is 22A for MPPT1 and 16A for MPPT2.

³ For the essential backup, additional external components like the Fronius Essential Backup Load Unit are required for grid separation.

⁴ Depending on the connected battery.

			Primo GEN24 208-240 SC & GEN24 208-240 Plus SC								
			3.8			5.0			6.0		
General data	Dimensions (height × width × depth)	inch/mm	20.3 x 18.7 x 6.5 / 516 x 474 x 165								
	Weight (inverter)	lbs./kg	32.96 lbs. / 14.95 kg								
	Protection class		NEMA 4X								
	Safety class		1								
	Night consumption	W	<10								
	Overvoltage category (DC/AC) ⁵		2/4								
	Cooling		Active Cooling Technology								
	Installation		Indoor and outdoor installation								
	Ambient temperature range	°F/°C	-40 to +140 / -40 to +60								
	Permissible humidity	%	0–100								
	Noise emissions	dB (A)	< 42								
	Max. altitude	ft/m	13,123 / 4,000								
	Connection technology DC PV		2x DC+1, 2x DC+2 and 4x DC- spring-type terminals for solid: copper AWG 14-8								
	Connection technology AC		Spring-type terminals for solid: copper stranded / fine stranded: copper: AWG 14-8 Backup power spring-type terminals: AWG 16-8								
Certificates and standard compliance		UL 1741 Third Edition (incl. UL1741 Supplement SA and SB), UL 1741 CRD - Non-Isolated EPS Interactive PV Inverters Rated Less Than 30kVA UL1998 (for functions: AFCI, RCMU, PVRSE and isolation monitoring), IEEE 1547:2018 incl. IEEE 1547a:2020, IEEE 1547.1:2020, IEEE 1547:2003 incl. IEEE 1547.1:2005, HECO Rule 14H, California Rule 21, and ISO NE ANSI/IEEE C62.41, FCC Part 15 A & B, CSA C22. 2 No. 107.1-16 (reaffirmed 2021), CSA C22.2 No.290-19, CSA C22.2 No.330-23, CSA C22.3 No.9:20 UL1699B:2024; UL 9540 Ed. 3 (only for Primo GEN24 208-240 Plus SC) - certification									
Country of manufacture		Austria									
Efficiency			208 V _{ac}	220 V _{ac}	240 V _{ac}	208 V _{ac}	220 V _{ac}	240 V _{ac}	208 V _{ac}	220 V _{ac}	240 V _{ac}
	Max. Efficiency	%	97.4	97.4	97.6	97.4	97.4	97.6	97.4	97.4	97.6
	CEC (ηCEC)	%	96.5	96.5	96.5	97	97	97	97	97	97
	MPP adjustment efficiency	%	> 99.9								
Protective equipment	DC insulation measurement		Integrated								
	DC disconnect		Integrated								
	Reverse polarity protection		Integrated								
	Arc Fault Circuit Interruption (Arc Guard)		Integrated								
Interfaces	WLAN / Ethernet LAN		Fronius Solar.web, Modbus TCP, Fronius Solar API (JSON), SunSpec Modbus								
	6 digital inputs		Connection to ripple control receiver, energy management								
	6 digital inputs/outputs		Integrated								
	Emergency shutdown (WSD)		Integrated								
	Data logger and web server		Fronius Smart Meter WR / Modbus RTU (third-party)								

⁵ According to UL 1741.



Sustainable, reliable, future-proof:

With our Fronius GEN24 SC inverter at the heart of the photovoltaic system, energy can be generated flexibly and inexpensively. The Fronius GEN24 Plus SC hybrid inverter even allows a battery storage system to be connected, so the solar energy generated can be used for electricity, heating, cooling, and e-mobility even at night. Full solar power for the private energy revolution with the Fronius GEN24 SC and the Fronius GEN24 Plus SC.

For further information, please visit: www.fronius.us/gen24

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