Designed to empower.

Fronius Primo GEN24

Product advantages

01 Integrated shade management
02 Backup power right from the start
03 Built-in longevity
04 Flexibility for greater potential
05 Sustainably future-proof

The heart of the photovoltaic system

01 Integrated shade management

Highest yields even in shade: That's what the Fronius GEN24 achieves with the Dynamic Peak Manager. The intelligent algorithm optimizes PV yields at the string level, eliminating the need for expensive module level optimization components.

02 Backup power right from the start

Harness backup power directly from the sun with the Fronius GEN24 equipped with PV Point. In the event of a power failure, energy is supplied via a designated socket with no need for a battery as long as the sun is shining.

03 Built-in longevity

The Active Cooling Technology effectively safeguards the electrical components, protecting them from heat development, therefore extending the service life of our inverters and securing the longevity of customers' investment.

04 Flexibility for greater potential

Thanks to the SuperFlex Design, the Fronius GEN24 is ideally equipped for complex roof situations. With the ability to align PV modules in different orientations and strings from 3 modules on, installers have the flexibility to design solar systems tailored to their customers' individual needs.

05 Sustainably future-proof

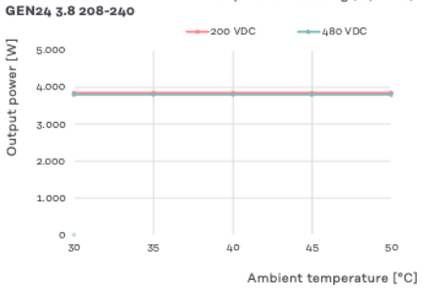
For those seeking a hybrid inverter solution, there's good news: Through an upcoming software upgrade, your device can be retrofitted with a battery connection, enabling the Full Backup power option so you have power even during a grid outage.

Impressive power data

The Fronius GEN24 impresses with maximum power at high temperatures.

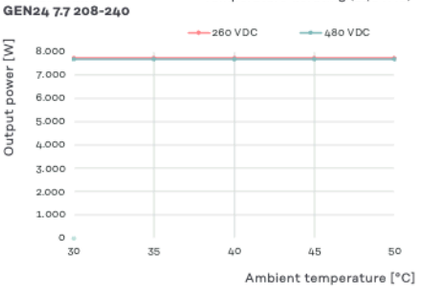
Fronius Primo GEN24 3.8 208-240

Temperature derating (240VAC)



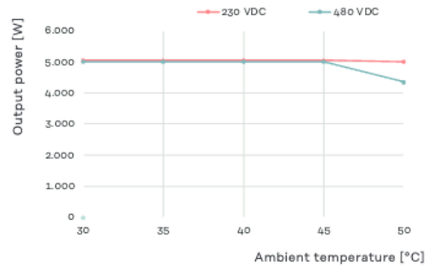
Fronius Primo GEN24 7.7 208-240

Temperature derating (240VAC)



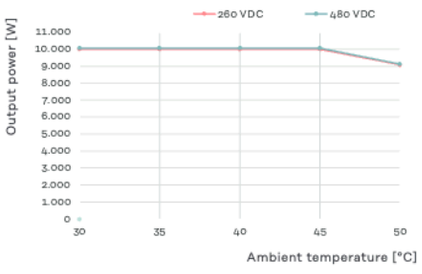
Fronius Primo GEN24 5.0 208-240

Temperature derating (240VAC)



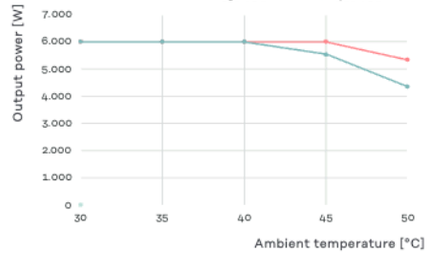
Fronius Primo GEN24 10.0 208-240

Temperature derating (240VAC)



Fronius Primo GEN24 6.0 208-240

Temperature derating (240VAC)



Technical data

3.8/5.0/6.0 kW

			Primo GEN24 208-240								
			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}
	Nominal 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			65–530		
	MPP voltage range (at rated power)	V	200–480			200–480			200–480		
			MPPT1	MPPT2		MPPT1	MPPT2		MPPT1	MPPT2	
	Max. usable input current ($I_{dc\ max}$)	A	22	12		22	12		22	12	
	Max. short circuit current per MPPT ($I_{sc\ pv}$) [1]	A	36	19		36	19		36	19	
	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	5,150	5,150	5,150	6,190	6,190	6,190
	Max. PV generator output	Wpeak	5,700	5,700	5,700	7,500	6,800	7,500	8,000	6,800	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
	Nom. AC output current	A	18.13	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 (+ 10 % / - 12 %)								
	Frequency (frequency range fmin - fmax)	Hz	50 Hz / 60 Hz (45 Hz – 66 Hz)								
	Distortion factor	%	< 3.5								
	Power factor (cos φac,r)		0.8 - 1 ind. / cap.								

Output data PV Point			120 V_{ac}	220 V_{ac}	240 V_{ac}	120 V_{ac}	220 V_{ac}	240 V_{ac}	120 V_{ac}	220 V_{ac}	240 V_{ac}
	Nom. Output power PV Point	VA	1,560	2,860	3,120	1,560	2,860	3,120	1,560	2,860	3,120
	Nominal AC voltage PV Point	V	1~NPE 120 V / 220 V / 240 V								
	Switching time	sec.	< 23								

The Fronius GEN24 can be upgraded to a Fronius GEN24 Plus hybrid inverter **in the future** through the UP.storage software upgrade. This upgrade activates battery functionality, enabling the possibility of a Full 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:

Full Backup power and battery function only available with GEN24 Plus

			Primo GEN24 208-240 Plus					
			3.8		5.0		6.0	
Output data Full Backup [2]			220 V_{ac}	240 V_{ac}	220 V_{ac}	240 V_{ac}	220 V_{ac}	240 V_{ac}
	Nom. Output power Full Backup	VA	3,800	3,800	5,000	5,000	6,000	6,000
	Mains connection Full Backup	V	1~NPE 220 V / 240 V					
	Switching time	sec.	< 35					

Battery connection	Number of DC inputs		1		
	Max. Input current (Idc max)	A	22		
	DC input voltage range (Udc min - Udc max)[3]	V	150–455		
	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

[1] *I_{sc} (STC) of the strings multiplied by 1.25 must be less or equal than ISC PV according to NEC 2023. This value needs to be divided by the amount of strings connected to the MPPT.*

[2] *For Full Backup, additional external components are required for grid separation.*

[3] *AC power derating of the inverter occurs with a DC battery input voltage of 419.7 V and higher.*

[4] *Depending on the connected battery.*

			Primo GEN24 208-240								
			3.8			5.0			6.0		
General data	Dimensions (height × width × depth)	inch/mm	20.4 x 18.7 x 6.5 / 518 x 474 x 164								
	Weight (inverter)	lbs./kg	33.24 lbs. / 15.08 kg								
	Protection class		Type 4X								
	Protection 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 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 ANSI/IEEE C62.41, FCC Part 15 A & B, NEC 2023 Article 690, 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:2021								
	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 disconnector		Integrated								
	Reverse polarity protection		Integrated								
	Arc Fault Circuit Interruption (Arc Guard)		Integrated								
Interfaces	WLAN / 2 × Ethernet LAN		Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON)								
	6 digital inputs		Connection to ripple control receiver, energy management								
	6 digital inputs/outputs		Integrated								
	Emergency shutdown (WSD)		Integrated								
	Data logger and web server		Modbus RTU SunSpec (third-party) / Fronius Smart Meter								

[5] *According to UL 1741.*

Technical data

7.7/10.0 kW

			Primo GEN24 208-240					
			7.7			10.0		
Input data	Number of MPP trackers		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}
	Nominal input voltage ($U_{dc,r}$)	V	365	365	385	365	365	385
	Feed-in start voltage ($U_{dc\ start}$)	V	80					
	Usable MPP voltage range	V	65–480			65–480		
	MPP voltage range (at rated power)	V	260–480			260–480		
			MPPT1	MPPT2		MPPT1	MPPT2	
	Max. usable input current ($I_{dc\ max}$)	A	22	22		22	22	
	Max. short circuit current per MPPT ($I_{sc\ pv}$) [1]	A	41.25	36		41.25	36	
	Number of DC connections		2	2		2	2	
			MPPT1	MPPT2	Total	MPPT1	MPPT2	Total
	Max. usable DC power	W	8,000	8,000	8,000	10,250	10,250	10,250
	Max. PV generator output	Wpeak	11,520	11,520	11,520	13,500	13,000	15,000
Output data			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	7,680	7,680	7,680	9,450	10,000	10,000
	Apparent power	VA	7,680	7,680	7,680	9,450	10,000	10,000
	Max. Output power	VA	7,680	7,680	7,680	9,450	10,000	10,000
	Nom. AC output current	A	36.9	34.9	32.0	45.45	45.45	41.7
	Mains connection ($U_{ac,r}$)	V	1~NPE 208 V / 220 V / 240 V (+ 10 % / - 12 %)					
	Frequency (frequency range fmin - fmax)	Hz	50 Hz / 60 Hz (45 Hz–66 Hz)					
	Distortion factor	%	< 3.5					
	Power factor (cos φac,r)		0.8–1 ind. / cap.					
Output data PV Point			120 V_{ac}	220 V_{ac}	240 V_{ac}	120 V_{ac}	220 V_{ac}	240 V_{ac}
	Nom. Output power PV Point	VA	1,560	2,860	3,120	1,560	2,860	3,120
	Nominal AC voltage PV Point	V	1~NPE 120 V / 220 V / 240 V					
	Switching time	sec.	< 35					

The Fronius GEN24 can be upgraded to a Fronius GEN24 Plus hybrid inverter **in the future** through the UP.storage software upgrade. This upgrade activates battery functionality, enabling the possibility of a Full 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:

Full Backup power and battery function only available with GEN24 Plus

			Primo GEN24 208-240 Plus			
			7.7		10.0	
Output data Full Backup [2]			220 V_{ac}	240 V_{ac}	220 V_{ac}	240 V_{ac}
	Nom. Output power Full Backup	VA	7,680	7,680	10,000	10,000
	Mains connection Full Backup	V	1~NPE 220 V / 240 V			
	Switching time	sec.	< 45			
Battery connection	Number of DC inputs		1			
	Max. Input current (Idc max)	A	22			
	DC input voltage range (Udc min - Udc max)[3]	V	150–455			
	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	7,680		10,000	

[1] *I_{sc} (STC) of the strings multiplied by 1.25 must be less or equal than ISC PV according to NEC 2023. This value needs to be divided by the amount of strings connected to the MPPT.*

[2] *For Full Backup, additional external components are required for grid separation.*

[3] *AC power derating of the inverter occurs with a DC battery input voltage of 419.7 V and higher.*

[4] *Depending on the connected battery.*

			Primo GEN24 208-240					
			7.7			10.0		
General data	Dimensions (height × width × depth)	inch/mm	23.0 x 20.8 x 7.1 / 583 x 529 x 180					
	Weight (inverter)	lbs./kg	45.97 lbs. / 20.85 kg					
	Protection class		Type 4X					
	Protection 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)	< 52					
	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 stranded / fine stranded: copper AWG 14-8					
	Connection technology AC		Spring-type terminals for solid: copper stranded / fine stranded: copper: AWG 12-6 Backup power spring-type terminals: AWG 16-8					
	Certificates and standard compliance		UL 1741 Third Edition (incl. UL1741 Supplement SA and SB), UL 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 ANSI/IEEE C62.41, FCC Part 15 A & B, NEC 2023 Article 690, 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:2021					
	Country of manufacture		Austria					
Efficiency			208 V_{ac}	220 V_{ac}	240 V_{ac}	208 V_{ac}	220 V_{ac}	240 V_{ac}
	Max. Efficiency	%	97.2	97.2	97.5	97.2	97.2	97.5
	CEC (ηCEC)	%	96.5	96.5	96.5	97	97	97
	MPP adjustment efficiency	%	> 99.9					
Protective equipment	DC insulation measurement		Integrated					
	DC disconnector		Integrated					
	Reverse polarity protection		Integrated					
	Arc Fault Circuit Interruption (Arc Guard)		Integrated					
Interfaces	WLAN / 2 × Ethernet LAN		Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON)					
	6 digital inputs		Connection to ripple control receiver, energy management					
	6 digital inputs/outputs		Integrated					
	Emergency shutdown (WSD)		Integrated					
	Data logger and web server		Modbus RTU SunSpec (third-party) / Fronius Smart Meter					

[5] *According to UL 1741.*

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For more information about the product, visit:
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