

Designed to empower.

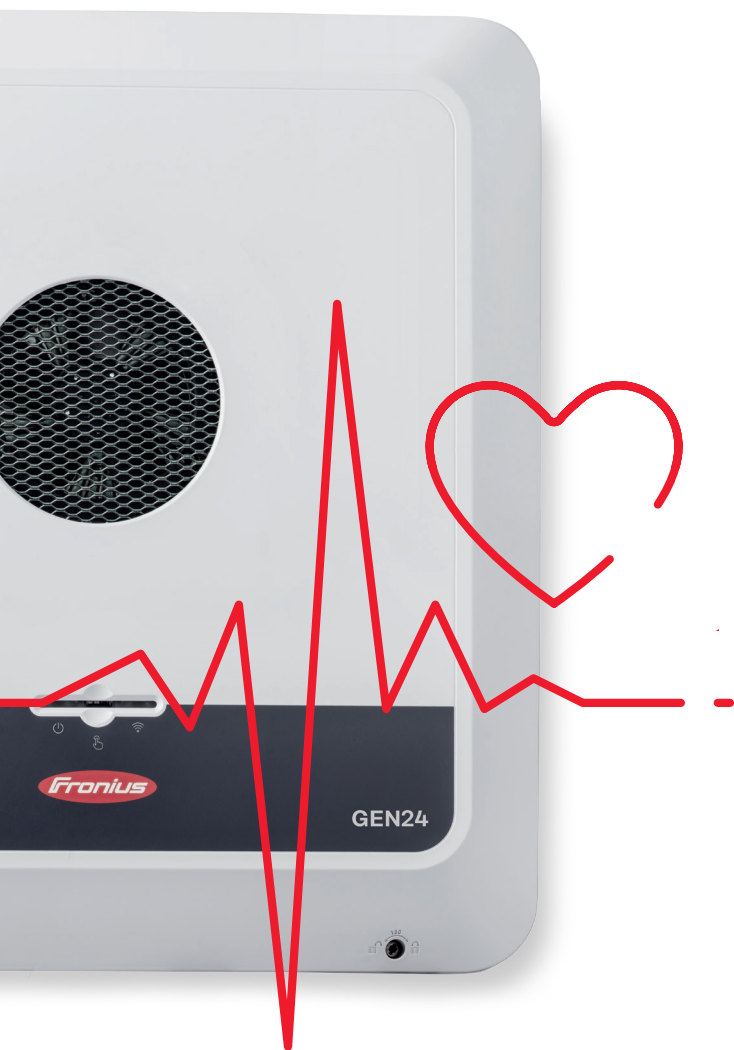


Fronius
Primo GEN24

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

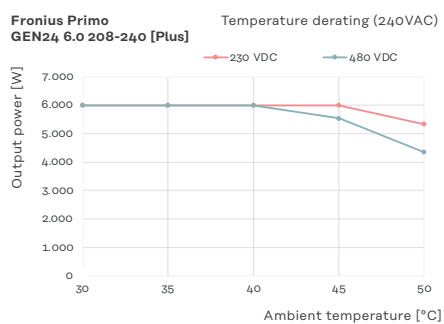
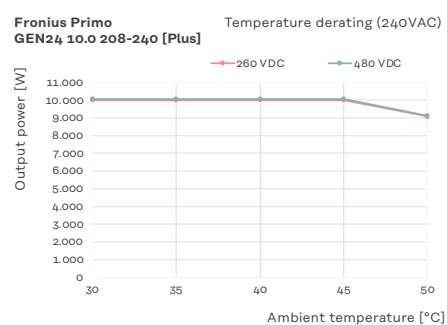
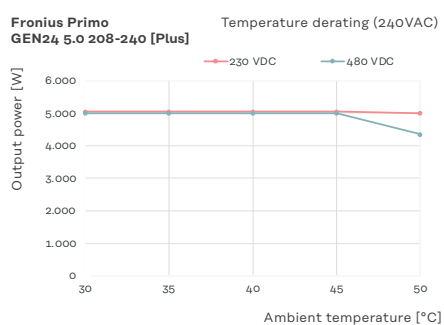
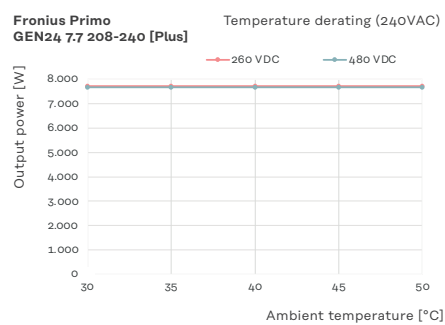
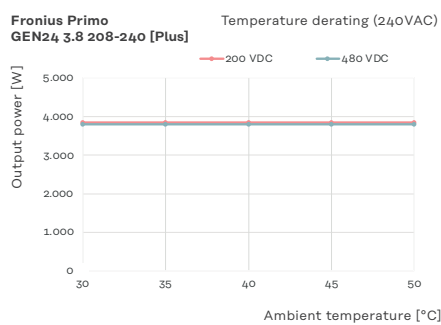
Thanks to the SuperFlex Design, the Fronius GEN24 is ideally equipped for complex roof situations. With the ability to align PV modules in different orientations and strings from 3 modules on, installers have the flexibility to design solar systems tailored to their customers' individual needs.

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.



Technical data

3.8/5.0/6.0 kW

3.8/5.0/6.0 kW

			Primo GEN24 208-240 & GEN24 208-240 Plus									
			3.8			5.0			6.0			
Input data	Number of MPP trackers		2			2			2			
	Voltage withstand limit	VDC	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			
	Operating voltage range	V	65–480			65–480			65–480			
	MPP voltage range (at rated power)	V	200–480			230-480			230-480			
			MPPT1		MPPT2		MPPT1		MPPT2		MPPT1	
	Max. short circuit current per MPPT (I _{sc}) ¹	A	36		19		36		19		36	
	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	W _{peak}	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
	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	Single phase 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	Single phase 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 ³			220 V _{ac}	240 V _{ac}	220 V _{ac}	240 V _{ac}	220 V _{ac}	240 V _{ac}
	Rated 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 (I _{dc max})	A	22					
	DC input voltage range (U _{dc min} - U _{dc max}) ⁴	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 ⁵	W	3,800		5,000		6,000	

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 12A for MPPT2.

³ For Full Backup, additional external components are required for grid separation.

⁴ AC power derating of the inverter occurs with a DC battery input voltage of 419.7 V and higher.

⁵ Depending on the connected battery.

			Primo GEN24 208-240 & GEN24 208-240 Plus								
			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	35.56 lbs. / 15.08 kg								
	Protection class		Type 4X								
	Protection class		1								
	Night consumption	W	<10								
	Overvoltage category (DC/AC) °		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, 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 disconnect		Integrated								
	Reverse polarity protection		Integrated								
	Arc Fault Circuit Interruption (Arc Guard)		Integrated								
Interfaces	WLAN / 2 × Ethernet LAN		Fronius Solar.web, Modbus TCP, 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		Fronius Smart Meter WR / Modbus RTU (third-party)								

⁶ According to UL 1741.

Technical data

7.7/10.0 kW

7.7/10.0 kW

			Primo GEN24 208-240 & GEN24 208-240 Plus					
			7.7			10.0		
Input data	Number of MPP trackers		2					
	Voltage withstand limit	VDC	600					
			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	365	365	385	365	365	385
	Feed-in start voltage (U _{dc start})	V	80					
	Operating voltage range	V	65–530			65–530		
	MPP voltage range (at rated power)	V	260–480			260–480		
			MPPT1	MPPT2	MPPT1	MPPT2		
	Max. short circuit current per MPPT (I _{sc}) ¹	A	41.25	36	41.25	36		
	Number of DC connections ²		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	W _{peak}	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
	Rated AC output current	A	36.9	34.9	32.0	45.45	45.45	41.7
	Mains connection (U _{ac,r})	V	Single phase 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}	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
	Rated AC voltage PV Point	V	Single phase 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			
			7.7		10.0	
Output data Full Backup ³			220 V _{ac}	240 V _{ac}	220 V _{ac}	240 V _{ac}
	Rated 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 (I _{dc max})	A	22			
	DC input voltage range (U _{dc min} - U _{dc max}) ⁴	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 ⁵	W	7,680		10,000	

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

² The maximum usable input current of the 7.7kW and 10.0kW is 22A for MPPT1 and 22A for MPPT2.

³ For Full Backup, additional external components are required for grid separation.

⁴ AC power derating of the inverter occurs with a DC battery input voltage of 419.7 V and higher.

⁵ Depending on the connected battery.

			Primo GEN24 208-240 & GEN24 208-240 Plus	
			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) ⁶		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 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, 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	97	96.5	96.5	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 / 2 x Ethernet LAN		Fronius Solar.web, Modbus TCP, 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		Fronius Smart Meter WR / Modbus RTU (third-party)					

⁶ According to UL 1741.

Fronius Primo GEN24



Designed to empower.

For more information about the product, visit:

www.fronius.us/gen24

Fronius USA LLC
Headquarters
6797 Fronius Drive
Portage, IN 46368
USA
pv-sales-usa@fronius.com
www.fronius.us

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