

Designed to transform.



Fronius Verto

Product advantages

- 01 Total flexibility
- 02 Maximum safety
- 03 Optimal use

Product advantages

01 Total flexibility

With four high-current MPP trackers and a wide voltage range, the Fronius Verto offers maximum flexibility. This makes the inverter ideally suited to complex system designs and all your individual requirements. What's more, the Fronius Verto's integrated Dynamic Peak Manager algorithm enables users to achieve optimal yields even where there's shade.

02 Maximum safety

With an integrated surge protection device and an Arc Fault Circuit Interrupter (AFCI), the Fronius Verto guarantees the very highest safety standards even in its basic configuration, without the need to pay for additional components. With Fronius, you can also rest assured that your data is in the best hands: This is ensured by our certified information security system and our servers and cloud storage in Europe.

03 Optimal use

Use excess solar energy for other PV applications such as e-mobility or heat, save costs, and ensure faster amortisation for your system. Thanks to its open interfaces, the Fronius Verto enables easy integration of consumption regulators, such as the Fronius Ohmpilot and Fronius Wattpilot. Our software solution Fronius EMIL is a perfect addition to your PV system, supplying your e-fleet with electricity in a fully automatic process across all locations. The integration of heat pumps or smart home systems is also a straightforward process with the Fronius Verto.

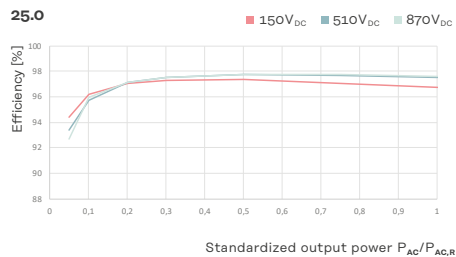


Fronius Verto

Efficiency

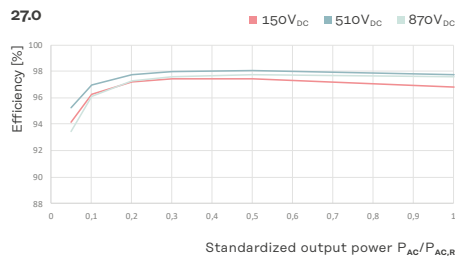
Fronius Verto

25.0



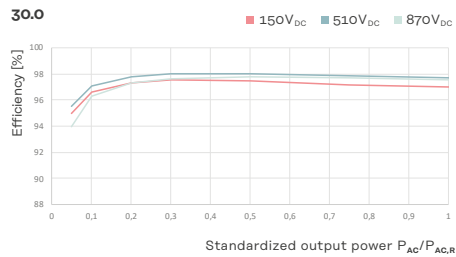
Fronius Verto

27.0



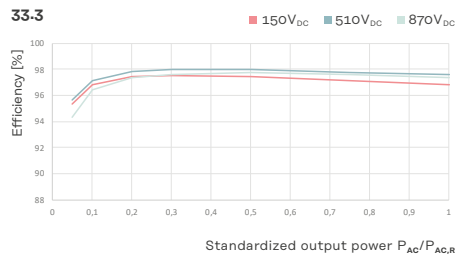
Fronius Verto

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Fronius Verto

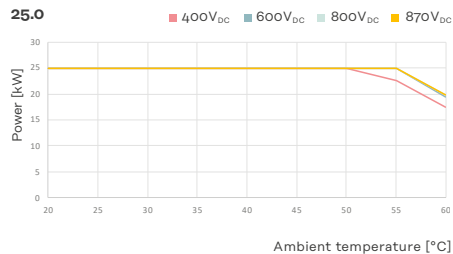
33.3



Power derating

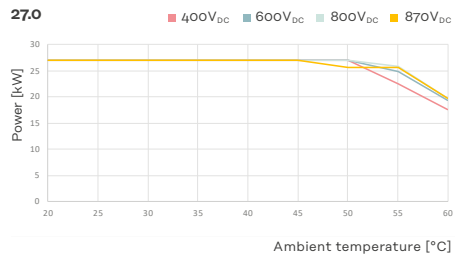
Fronius Verto

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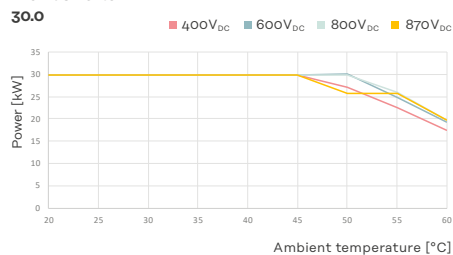
Fronius Verto

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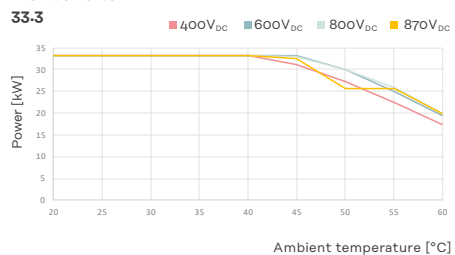
Fronius Verto

30.0



Fronius Verto

33.3



Technical data

Verto 25.0 - 33.3

			Fronius Verto															
			Verto 25.0				Verto 27.0				Verto 30.0				Verto 33.3			
Input data	Number of MPP trackers		4				4				4				4			
	Number of DC connections per MPPT		2				2				2				2			
	Max. usable input current per MPPT (I _{dc max, MPPT})	A	28				28				28				28			
	Max. usable input current per string (I _{dc max, string}) ¹	A	28				28				28				28			
	Max. module array short circuit current per MPPT (I _{sc pv, MPPT}) ²	A	50				50				50				50			
	Max. module array short circuit current per string (I _{sc pv, string}) ²	A	50				50				50				50			
	Max. module array short circuit current – inverter (I _{sc pv, inverter}) ²	A	150				150				150				150			
	Nominal input voltage (U _{dc,r})	V	600				600				600				600			
	DC input voltage range (U _{dc min} - U _{dc max})	V	150–1000				150–1000				150–1000				150–1000			
	Feed-in start-up input voltage (U _{dc start})	V	150				150				150				150			
	Usable MPP voltage range (U _{mpp min} - U _{mpp max}) ¹	V	150–870				150–870				150–870				150–870			
	MPP voltage range (at rated power) (U _{mpp min} - U _{mpp max})	V	300–870				330–870				360–870				400–870			
	Max. usable DC power – MPPT (P _{dc max, PV})	Wpeak	13,000				13,000				13,000				13,000			
	Max. PV generator output – MPPT (P _{PV max})	Wpeak	20,000				20,000				20,000				20,000			
	Max. PV generator output – inverter (P _{PV max})	Wpeak	37,500				40,500				45,000				50,000			
Output data	AC rated power (P _{ac,r})	W	25,000				27,000				29,990				33,300			
	Max. output power	VA	25,000				27,000				29,990				33,300			
		V _{AC}	380	400	440	480	380	400	440	480	380	400	440	480	380	400	440	480
	AC output current (I _{ac,r})	A	37.9	36.2	32.8	30.1	40.9	39.1	35.4	32.5	45.5	43.5	39.4	36.1	50.5	48.3	43.7	40.1
	Mains connection (U _{ac,r})	V	3~ (N)PE 380/220; 3~ (N)PE 400/230; 3~ (N)PE 440/254; 3~ (N)PE 480/274				3~ (N)PE 380/220; 3~ (N)PE 400/230; 3~ (N)PE 440/254; 3~ (N)PE 480/275				3~ (N)PE 380/220; 3~ (N)PE 400/230; 3~ (N)PE 440/254; 3~ (N)PE 480/276				3~ (N)PE 380/220; 3~ (N)PE 400/230; 3~ (N)PE 440/254; 3~ (N)PE 480/277			
	Frequency (frequency range f _{min} - f _{max})	Hz	50/60 (45–65)				50/60 (45–65)				50/60 (45–65)				50/60 (45–65)			
	Total harmonic distortion	%	< 3				< 3				< 1				< 1			
	Power factor (cos φ _{ac,r})		0–1 ind./cap.				0–1 ind./cap.				0–1 ind./cap.				0–1 ind./cap.			

¹ A single string is technically capable of processing the full/usable MPPT current. The max. current per MPPT is always limited to 28 A.

² 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.

Technical data

Verto 25.0 - 33.3

			Fronius Verto			
			Verto 25.0	Verto 27.0	Verto 30.0	Verto 33.3
General data	Dimensions (height × width × depth)	mm	865 x 574 x 278			
	Weight (inverter)	kg	41.75			
	Protection class		IP 66			
	Safety class		1			
	Over-voltage category (DC/AC)		2/3			
	Night consumption	W	< 16			
	Cooling		Active air cooling			
	Installation		Indoor and outdoor installation			
	Ambient temperature range	°C	-40 to +60			
	Permissible humidity	%	0–100			
	Noise emissions	dB (A)	< 54.6			
	Max. altitude above sea level	m	3,000/4,000 (unrestricted/restricted voltage range)			
	Certificates and compliance with standards		IEC62109-1/-2; VDE-AR-N 4105:2018; R25			
Connection technology	AC	Cable cross-section	4–35			
		Conductive material	Al and Cu			
		Connection ports	AC: M32 (Ø12–24.5 mm) Prepared for option 1: M50 cable gland (Ø10–35 mm) Option 2: 1.5" conduit connection PE & data communication: 2 x M32 (3 x Ø 4.9–5.5 mm + 3 x Ø 6.7–8.5 mm)			
	DC	Connection ports	DC direct connection Stäubli Multi Contact MC4			
		Conductive material	Al and Cu			
Efficiency	Max. efficiency	%	97.47	98.03	98.02	97.98
	European efficiency (η _{EU})	%	97.36	97.79	97.80	97.76
	MPP adaptation efficiency	%	> 99.9			
Protection devices	DC isolation measurement		Integrated			
	DC disconnecter		Integrated			
	RCMU		Integrated			
	Arc Fault Circuit Interrupter—Arc Guard		Integrated			
	Reverse polarity protection		Integrated			
	DC/AC surge protection device		Type 1+2 or type 2			
Interfaces	WLAN		Fronius Solar.web, Modbus TCP, JSON, 802.11b/g			
	Ethernet LAN RJ45		10/100 Mbit; max. 100 m Fronius Solar.web, Modbus TCP, JSON			
	Wired Shutdown (WSD)		Integrated			
	2 × RS485		Modbus RTU SunSpec (third-party provider)/Fronius Smart Meter			
	6 digital inputs 6 digital inputs/outputs		Connection to ripple control receiver, energy management, load management			
	Datalogger and web server		Integrated			

Fronius Verto. Designed to transform.



Your photovoltaic system can do more

Fronius Verto, the adaptable inverter for small businesses, agricultural applications and apartment buildings. Its flexibility makes it the perfect choice, both for constructing a new PV system and expanding an existing one. Featuring integrated safety features and innovative shade management, the Fronius Verto ensures optimum operation. Our flexible inverter facilitates energy sector integration thanks to its open interfaces. This means that it is easy to integrate charging stations such as Fronius Watto pilot and consumption regulators such as Fronius Ohmpilot.

For more information about the product, visit:

www.fronius.com/vert-en

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