Designed to transform.

Fronius Verto

Product advantages

01 Total flexibility
02 Maximum safety
03 Optimal use

Product advantages

01 Total flexibility

The Fronius Verto offers maximum flexibility with four high-current MPP trackers and a wide voltage range. This makes the inverter ideally suited to complex system designs and all your individual requirements. What's more, the Fronius Verto uses an integrated Dynamic Peak Manager algorithm that enables users to achieve optimal yields even in shady conditions.

02 Maximum safety

With an integrated surge protection device and an Arc Fault Circuit Interrupter (Fronius Arc Guard), 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.

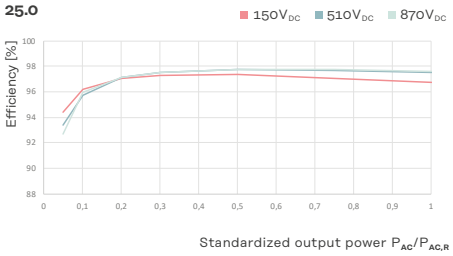
03 Optimal use

Use excess solar energy for other PV applications such as e-mobility or heat, save costs, and ensure faster amortization for your system. Thanks to its open interfaces, the Fronius Verto enables easy integration of consumption regulators, such as the Fronius Ohmpilot or Fronius Wattpilot. A perfect addition to your PV system: Our Fronius EMIL software solution supplies your e-fleet with electricity in a fully automated process across all locations. Heat pumps or smarthome systems are easy to integrate and work well with the Fronius Verto.

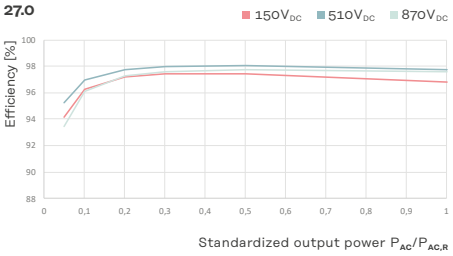
Fronius Verto

Efficiency

Fronius Verto 25.0



Fronius Verto 27.0



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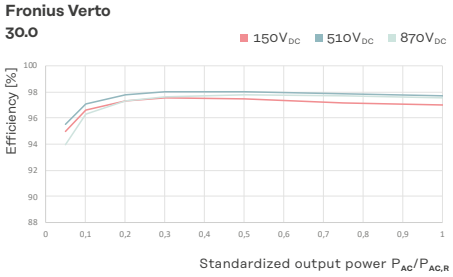
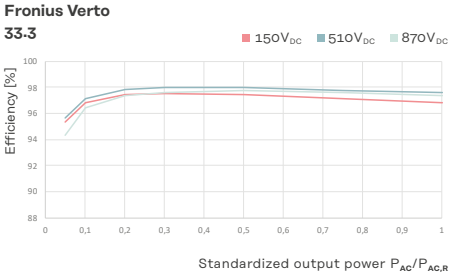
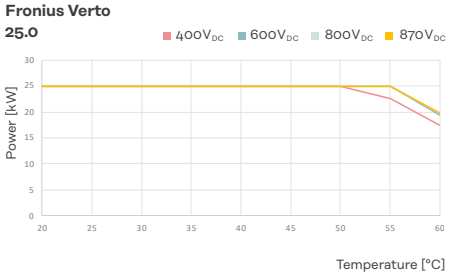


Fronius Verto 33.3



Power derating

Fronius Verto 25.0



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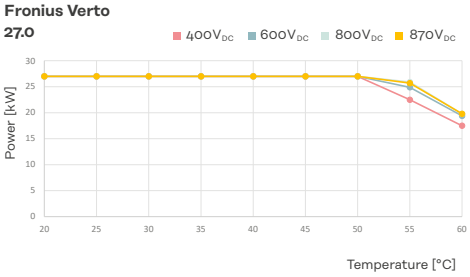

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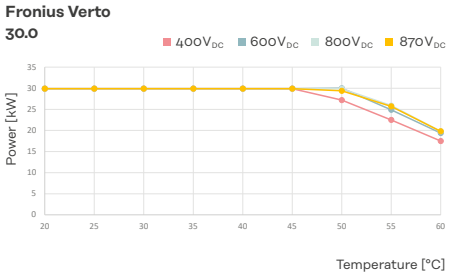
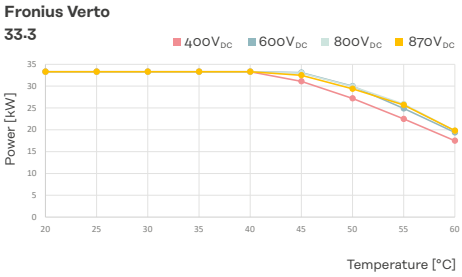


Fronius Verto 33.3



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	150–1,000	150–1,000	150–1,000	150–1,000
	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 $_{\varphi ac,r}$)		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] *Isc pv = Isc max ≥ Isc (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; UNE 217002:2020; IEC 62116; EN 50549-1/-2			
Connection technology	AC	Cable cross-section	mm^2	4–35			
		Conductive material		Al and Cu			
		Cable gland		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 xØ 4.9–5.5 mm + 3 xØ 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
	Europ. efficiency (ηEU)		%	97.36	97.79	97.80	97.76
	MPP adaptation efficiency		%	> 99.9			
Protection devices	DC isolation measurement			Integrated			
	DC disconnector			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			

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 Wattpilot and consumption regulators such as Fronius Ohmpilot.

For more information about the product, visit:
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