Fronius Verto

Product advantages

01 Total flexibility

The Fronius Verto offers maximum flexibility with up to 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.

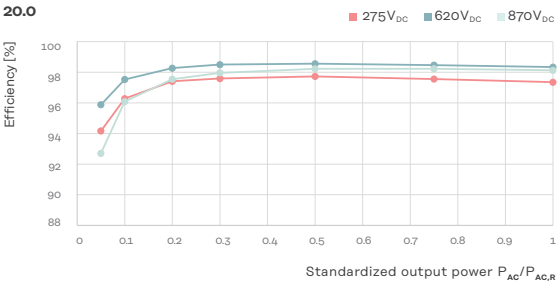
03 Optimal use

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 Flex. 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.

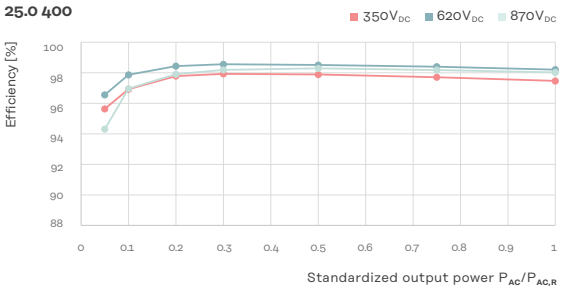
Fronius Verto

Efficiency

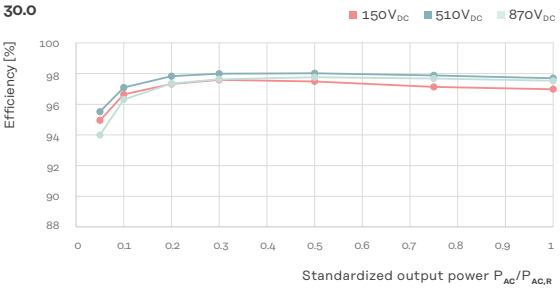
Fronius Verto 20.0



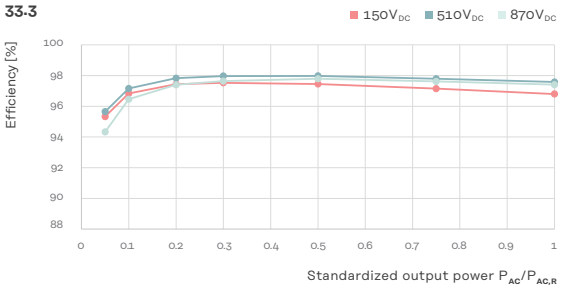
Fronius Verto 25.0 400



Fronius Verto 30.0

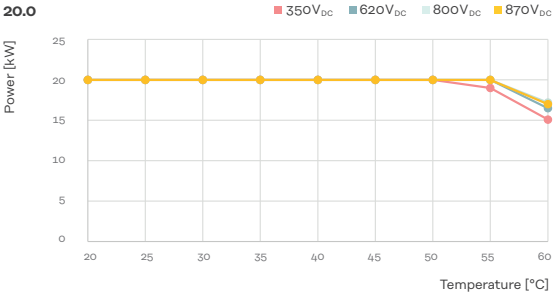


Fronius Verto 33.3



Power derating

Fronius Verto 20.0



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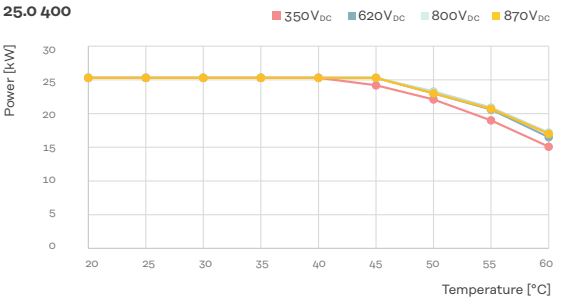
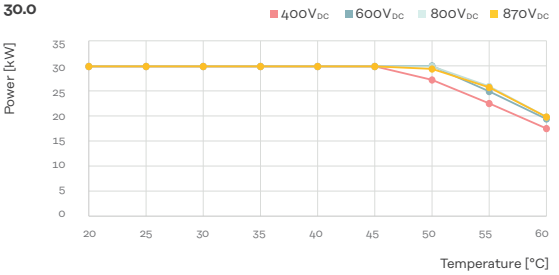
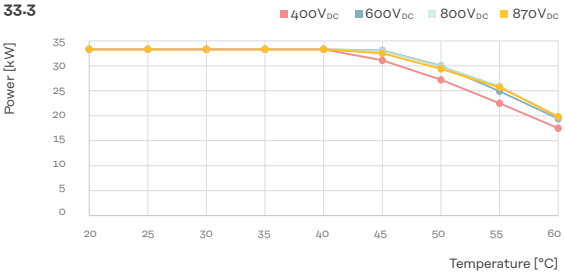


Fronius Verto 30.0



Fronius Verto 33.3



Technical data

Verto 15.0 - 25.0 400

			Fronius Verto			
			Verto 15.0	Verto 17.5	Verto 20.0	Verto 25.0 400
Input data	Number of MPP trackers		3	3	3	3
	Number of DC connections per MPPT		2 / 1 / 1	2 / 1 / 1	2 / 1 / 1	2 / 1 / 1
	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 - 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	100	100	100	100
	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
	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	210–870	245–870	275–870	335–870
	Max. usable DC output ($P_{dc\ max,\ PV}$)	Wpeak	13,000	13,000	13,000	13,000
	Max. PV generator output - MPPT ($P_{PV\ max}$)	Wpeak	19,500	19,500	19,500	19,500
	Max. PV generator output - inverter ($P_{PV\ max}$)	Wpeak	22,500	26,250	30,000	37,500

Output data	AC rated power ($P_{ac,r}$)	W	15,000				17,500				20,000				25,000			
	Max. output power	VA	15,000				17,500				20,000				25,000			
		V_{AC}	380	400	440	480	380	400	440	480	380	400	440	480	400	440	480	
	Nominal AC output current ($I_{ac,r}$)	A	22.7	21.7	19.7	18.2	26.5	25.4	23.0	21.2	30.3	29.0	26.2	24.2	36.2	32.8	30.1	
	Grid connection ($U_{ac,r}$)	V	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				3~ (N)PE 400/230;			
	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 capable of utilizing full usable MPP current. The current per MPPT is limited to total 28A.*
[2] *Isc pv = Isc max ≥ Isc (STC) x 1.25 according e.g.: IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.*

			Fronius Verto			
			Verto 15.0	Verto 17.5	Verto 20.0	Verto 25.0 400
General data	Dimensions (height × width × depth)	mm	730 x 540 x 278			
	Weight (inverter)	kg	35.20			
	Degree of protection		IP 66			
	Safety class		1			
	Overvoltage category (DC/AC)		2/3			
	Night-time consumption	W	< 16			
	Cooling		Active Cooling Technology			
	Installation		Indoor and outdoor installation, 90°-10° tilt			
	Ambient temperature range	°C	-40 to +60			
	Permissible humidity	%	0–100			
	Noise emissions	dB (A)	< 56.5			
	Max. altitude	m	3,000/4,000 (unrestricted/restricted voltage range)			
	Certificates and compliance with standards		IEC 62109-1/-2; VDE-AR-N 4105:2018; VDE-AR-N 4110:2023-09; R25; EN 50549-1/-2; CEI 0-16; CEI 0-21; UNE 217002:2020; IEC 62116; IEC 61727; AS/NZS 4777.2:2020+A1; IEC63027:2023; NRS 097-2-1; G99;			
	Country of manufacture		Austria			
Connection technology	AC: Cable cross-section	mm²	4–35			
	AC: Conductor material		Al and Cu			
	AC: 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 x Ø 4.9–5.5 mm + 3 x Ø 6.7–8.5 mm)			
	DC: Connection terminals		DC direct connection Stäubli Multi Contact MC4			
	DC: Conductor material		Al and Cu			
Efficiency	Max. efficiency	%	98.53	98.55	98.56	98.56
	Europ. efficiency (ηEU)	%	98.19	98.29	98.33	98.35
	MPP adaptation efficiency	%	> 99.9			
Protection devices	DC insulation measurement		Integrated			
	DC disconnector		Integrated			
	RCMU		Integrated			
	Arc fault circuit interrupter (Fronius Arc Guard)		Integrated			
	Reverse polarity protection		Integrated			
	DC surge protection		Type 1+2 (IEC 61643-31)			
	AC surge protection		Type 2 (IEC 61643-11)			
Interfaces	WLAN		Fronius Solar.web, Modbus TCP, JSON, 802.11b/g			
	2 x Ethernet LAN RJ45		10/100 Mbit; max. 100 m Fronius Solar.web, Modbus TCP, JSON			
	Wired Shutdown (WSD)		Integrated			
	2 × RS485		Modbus RTU SunSpec / Fronius Smart Meter			
	6 inputs and 6 digital inputs/ outputs		Connection to ripple control receiver, energy management			
	Datalogger and Webserver		Integrated			

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 - 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
	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 output ($P_{dc\ max,\ PV}$)	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
	Nominal 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
	Grid 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 480/276				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 480/276			
	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.			

* *Planned for discontinuation.*

[1] *A single String is capable of utilizing full usable MPP current. The current per MPPT is limited to total 28A.*

[2] *Isc pv = Isc max ≥ Isc (STC) x 1.25 according e.g.: IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.*

			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 279			
	Weight (inverter)	kg	41.75			
	Degree of protection		IP 66			
	Safety class		1			
	Overvoltage category (DC/AC)		2/3			
	Night-time consumption	W	< 16			
	Cooling		Active Cooling Technology			
	Installation		Indoor and outdoor installation, 90°-10° tilt			
	Ambient temperature range	°C	-40 to +60			
	Permissible humidity	%	0–100			
	Noise emissions	dB (A)	< 54.6			
	Max. altitude	m	3,000/4,000 (unrestricted/restricted voltage range)			
	Certificates and compliance with standards		IEC 62109-1/-2; VDE-AR-N 4105:2018; VDE-AR-N 4110:2023-09; R25; EN 50549-1/-2; CEI 0-16; CEI 0-21; UNE 217002:2020; IEC 62116; IEC 61727; AS/NZS 4777.2:2020+A1; IEC63027:2023; NRS 097-2-1; G99			
	Country of manufacture		Austria			
Connection technology	AC: Cable cross-section	mm²	4–35			
	AC: Conductor material		Al and Cu			
	AC: 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 x Ø 4.9–5.5 mm + 3 x Ø 6.7–8.5 mm)			
	DC: Connection terminals		DC direct connection Stäubli Multi Contact MC4			
	DC: Conductor 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 insulation measurement		Integrated			
	DC disconnector		Integrated			
	RCMU		Integrated			
	Arc fault circuit interrupter (Fronius Arc Guard)		Integrated			
	Reverse polarity protection		Integrated			
	DC surge protection		Type 1+2 or Type 2 (IEC 61643-31)			
	AC surge protection		Type 1+2 or Type 2 (IEC 61643-11)			
Interfaces	WLAN		Fronius Solar.web, Modbus TCP, JSON, 802.11b/g			
	2 x Ethernet LAN RJ45		10/100 Mbit; max. 100 m Fronius Solar.web, Modbus TCP, JSON			
	Wired Shutdown (WSD)		Integrated			
	2 × RS485		Modbus RTU SunSpec / Fronius Smart Meter			
	6 inputs and 6 digital inputs/ outputs		Connection to ripple control receiver, energy management			
	Datalogger and Webserver		Integrated			

* *Planned for discontinuation.*

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 Flex and consumption regulators such as Fronius Ohmpilot.

For more information about the product, visit:
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