



Fronius Verto



208-480

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.

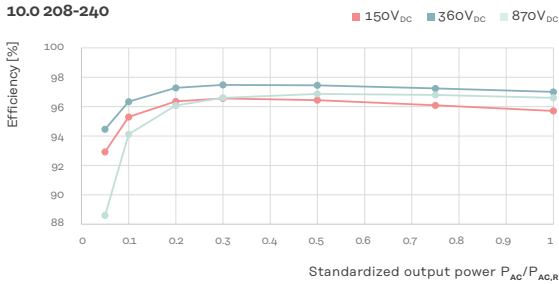
03 Optimal use

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.

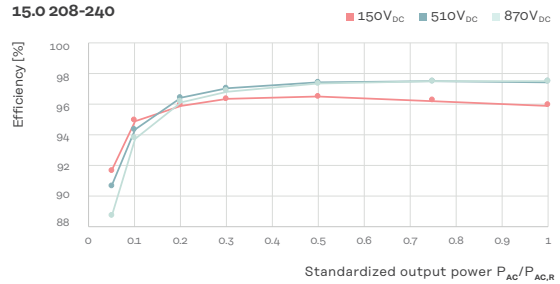
Fronius Verto

Efficiency

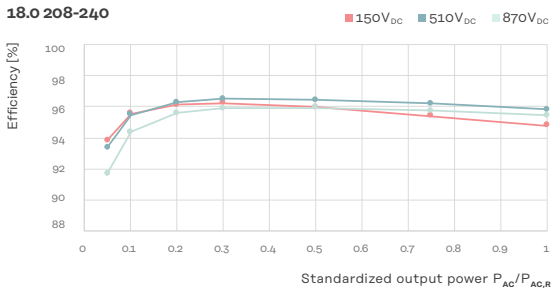
Fronius Verto
10.0 208-240



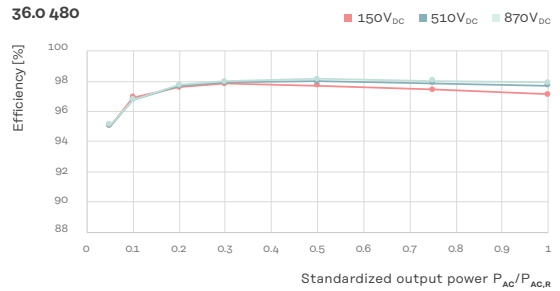
Fronius Verto
15.0 208-240



Fronius Verto
18.0 208-240

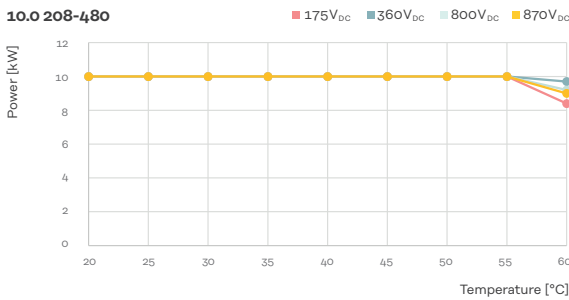


Fronius Verto
36.0 480

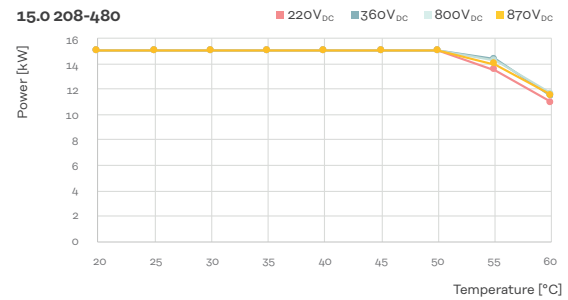


Power derating

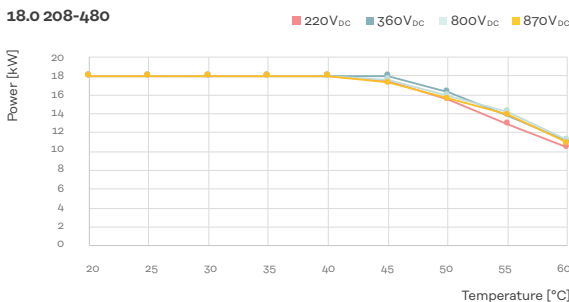
Fronius Verto
10.0 208-480



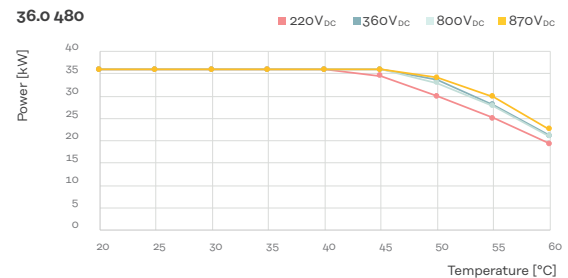
Fronius Verto
15.0 208-480



Fronius Verto
18.0 208-480



Fronius Verto
36.0 480



Technical data

Verto 10.0 - 25.0

			Fronius Verto								
			Verto 10.0 208-240			Verto 12.5 208-240			Verto 25.0 480		
Input data	Number of MPPT trackers		3			3			3		
	Number of DC connections per MPPT		2 / 1 / 1			2 / 1 / 1			2 / 1 / 1		
	Max. usable input current per MPPT ($I_{dc\ max, MPPT}$)	A	28			28			28		
	Max. usable input current per string ($I_{dc\ max, string}$) ¹	A	28			28			28		
	Max. module array short circuit current per MPPT ($I_{sc\ pv, MPPT}$) ²	A	50			50			50		
	Max. module array short circuit current per string ($I_{sc\ pv, string}$) ²	A	50			50			50		
	Max. module array short circuit current—inverter ($I_{sc\ pv, inverter}$) ²	A	100			100			100		
	Nominal input voltage ($U_{dc,r}$)	V	600			600			600		
	DC input voltage range ($U_{dc\ min}-U_{dc\ max}$)	V	150–1,000			150–1,000			150–1,000		
	Feed-in start-up input voltage ($U_{dc\ start}$)	V	150			150			150		
	Usable MPP voltage range ($U_{mpp\ min}-U_{mpp\ max}$) ¹	V	150–870			150–870			150–870		
	MPP voltage range (at rated power) ($U_{mpp\ min}-U_{mpp\ max}$)	V	180–870			220–870			335–870		
	Max. usable DC power—MPPT ($P_{dc\ max, PV}$)	W	13,000			13,000			13,000		
	Max. PV generator output—MPPT ($P_{PV\ max}$)	W _{peak}	19,500			19,500			19,500		
	Max. PV generator output—inverter ($P_{PV\ max}$)	W _{peak}	15,000			18,750			37,500		
Output data	AC rated power ($P_{ac,r}$)	W	10,000			12,500			24,990		
	Max. output power	VA	10,000			12,500			24,990		
		V _{CA}	208	220	240	208	220	240	440	480	
	AC output current ($I_{ac,r}$)	A	27.8	26.2	24.0	34.7	32.8	30.0	32.8	30.1	
	Mains connection ($U_{ac,r}$)	V	3~ (N)PE 208/120V; 3~ (N)PE 220/127V; 3~ (N)PE 240/139V			3~ (N)PE 208/120V; 3~ (N)PE 220/127V; 3~ (N)PE 240/139V			3~ (N)PE 440/254V; 3~ (N)PE 480/277V		
	Frequency (frequency range $f_{min}-f_{max}$)	Hz	50/60 (45–65)			50/60 (45–65)			50/60 (45–65)		
	Total harmonic distortion	%	< 3			< 3			< 1		
	Power factor ($\cos\ \varphi_{ac,r}$)		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 $I_{sc\ pv} = I_{sc\ max} \geq I_{sc\ (STC)} \times 1.25$ according to e.g.: IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.

Technical data

Verto 10.0 - 25.0

			Fronius Verto		
			Verto 10.0 208-240	Verto 12.5 208-240	Verto 25.0 480
General data	Dimensions (height × width × depth)	mm	730 x 540 x 278		
	Weight (inverter)	kg	35.20		
	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)	< 56.5		
	Max. altitude above sea level	m	3,000/4,000 (unrestricted/restricted voltage range)		
	Certificates and compliance with standards		IEC 62109-1/-2, IEC 62116, IEC 63112, IEC 63027, IEC 61727		
Connection technology	AC	Cable cross-section	mm ² 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	%	97.48	97.43	98.75
	Europ. efficiency (η _{EU})	%	97.18	97.09	98.54
	MPP adaptation efficiency	%	> 99.9		
Protection devices	DC isolation measurement		Integrated		
	DC disconnect		Integrated		
	RCMU		Integrated		
	Arc Fault Circuit Interrupter—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		
	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		

Technical data

Verto 15.0 - 36.0

			Fronius Verto								
			Verto 15.0 208-240			Verto 18.0 208-240			Verto 36.0 480		
Input data	Number of MPPT trackers		4			4			4		
	Number of DC connections per MPPT		2			2			2		
	Max. usable input current per MPPT ($I_{dc\ max, MPPT}$)	A	28			28			28		
	Max. usable input current per string ($I_{dc\ max, string}$) ¹	A	28			28			28		
	Max. module array short circuit current per MPPT ($I_{sc\ pv, MPPT}$) ²	A	50			50			50		
	Max. module array short circuit current per string ($I_{sc\ pv, string}$) ²	A	50			50			50		
	Max. module array short circuit current—inverter ($I_{sc\ pv, inverter}$) ²	A	150			150			150		
	Nominal input voltage ($U_{dc,r}$)	V	360			360			720		
	DC input voltage range ($U_{dc\ min}-U_{dc\ max}$)	V	150-1.000			150-1.000			150-1.000		
	Feed-in start-up input voltage ($U_{dc\ start}$)	V	150			150			150		
	Usable MPP voltage range ($U_{mpp\ min}-U_{mpp\ max}$) ¹	V	150-870			150-870			150-870		
	MPP voltage range (at rated power) ($U_{mpp\ min}-U_{mpp\ max}$)	V	180-870			220-870			440-870		
	Max. usable DC power—MPPT ($P_{dc\ max, PV}$)	W	13.000			13.000			13.000		
	Max. PV generator output—MPPT ($P_{PV\ max}$)	W _{peak}	20.000			20.000			20.000		
Max. PV generator output—inverter ($P_{PV\ max}$)	W _{peak}	22.500			27.000			50.000			
Output data	AC rated power ($P_{ac,r}$)	W	15.000			18.000			36.000		
	Max. output power	VA	15.000			18.000			36.000		
		V _{CA}	208	220	240	208	220	240	440	480	
	AC output current ($I_{ac,r}$)	A	41.7	39.4	36.0	50.0	47.2	43.2	47.2	43.3	
	Mains connection ($U_{ac,r}$)	V	3~ (N)PE 208/120; 3~ (N)PE 220/127; 3~ (N)PE 240/139			3~ (N)PE 208/120; 3~ (N)PE 220/127; 3~ (N)PE 240/139			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)		
	Total harmonic distortion	%	< 3			< 3			< 1		
	Power factor ($\cos\ \varphi_{ac,r}$)		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.

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Technical data

Verto 15.0 - 36.0

			Fronius Verto		
			Verto 15.0 208-240	Verto 18.0 208-240	Verto 36.0 480
General data	Dimensions (height × width × depth)	mm	865 x 574 x 279		
	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		IEC 62109-1/-2; UNE 217002:2020; IEC 62116; IEC63027; IEC 61727		
Connection technology	AC	Cable cross-section	mm ² 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 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	%	97.50	96.49	98.13
	Europ. efficiency (η _{EU})	%	96.87	96.14	97.85
	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 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		
	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 Flex and consumption regulators such as Fronius Ohmpilot.

For more information about the product, visit:

www.fronius.com/verto-en

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