



## Technical data Fronius Verto 25.0 – 27.0

		Unit	Verto 25.0				Verto 27.0			
Input data	Number of MPP trackers		4				4			
			PV 1	PV 2	PV 3	PV 4	PV 1	PV 2	PV 3	PV 4
	Number of DC connections		2	2	2	2	2	2	2	2
	Max. usable input current MPPT ( $I_{dc\ max, MPPT}$ )	A	28	28	28	28	28	28	28	28
	Max. usable input current per string ( $I_{dc\ max, MPPT}$ ) <sup>1)</sup>	A	28	28	28	28	28	28	28	28
	Max. module array short circuit current—MPPT ( $I_{sc\ pv, String}$ ) <sup>2)</sup>	A	50	50	50	50	50	50	50	50
	Max. module array short circuit current, per string ( $I_{sc\ pv, PV}$ ) <sup>2)</sup>	A	50	50	50	50	50	50	50	50
	Max. module array short circuit current—inverter ( $I_{sc\ pv, inverter}$ ) <sup>2)</sup>	A	150				150			
	Nominal input voltage ( $U_{dc,r}$ )	V	600				600			
	DC input voltage range ( $U_{dc\ min}$ – $U_{dc\ max}$ )	V	150–1000				150–1000			
	Feed-in start-up input voltage ( $U_{dc\ start}$ )	V	tbd				tbd			
	Usable MPP voltage range ( $U_{mpp\ min}$ – $U_{mpp\ max}$ ) <sup>1)</sup>	V	150–870				150–870			
	MPP voltage range (at rated power) ( $U_{mpp\ min}$ – $U_{mpp\ max}$ )	V	300–870				330–870			
	Max. usable DC power ( $P_{dc\ max, PV}$ )	Wpeak	13 000				13 000			
	Max. PV generator output—MPPT ( $P_{PV\ max}$ )	Wpeak	20 000				20 000			
	Max. PV generator output—inverter ( $P_{PV\ max}$ )	Wpeak	37 500				40 500			



Output data	AC rated power ( $P_{ac,r}$ )	W	25 000				27 000			
	Max. output power	VA	25 000				27 000			
			380 VAC	400 VAC	440 VAC	480 VAC	380 VAC	400 VAC	440 VAC	480 VAC
	AC output current ( $I_{ac,r}$ )	A	37.9	36.2	32.8	30.1	40.9	39.1	35.4	32.5
	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 480/275			
	Frequency (frequency range $f_{min}$ - $f_{max}$ )	Hz	50/60 (45-65)				50/60 (45-65)			
	Total harmonic distortion	%	< 3				< 3			
	Power factor ( $\cos \phi_{ac,r}$ )		0-1 ind./cap.				0-1 ind./cap.			

General data	Dimensions (height × width × depth)	mm	865 x 574 x 278				865 x 574 x 278			
	Weight (inverter/with packaging)	kg	44.75				44.75			
	Protection class		IP 66				IP 66			
	Safety class		1				1			
	Overvoltage category (DC/AC)		2/3				2/3			
	Night consumption	W	15				15			
	Cooling		Active air cooling				Active air cooling			
	Installation		Indoor and outdoor installation				Indoor and outdoor installation			
	Ambient temperature range	°C	-40 to +65				-40 to +65			



	Permissible humidity	%	0-100	0-100
	Noise emissions	dB (A)	<55.6	<55.6
	Max. altitude above sea level	m	4000	4000
	Certificates and compliance with standards <sup>6)</sup>		tbd	tbd
	Life cycle analysis		tbd	tbd

Connection technology	AC	Cable cross-section	mm <sup>2</sup>	4-35	4-35
		Conductive material		Al and Cu	Al and Cu
		Cable gland		<b>AC:</b> M32 (Ø12-24.5 mm) Prepared for option 1: M50 cable gland (Ø10-35 mm) Option 2: 1.5" conduit connection  <b>PE &amp; data communication:</b> 2 x M32 (3 xØ 4.9-5.5 mm + 3 xØ 6.7-8.5 mm)	<b>AC:</b> M32 (Ø12-24.5 mm) Prepared for option 1: M50 cable gland (Ø10-35 mm) Option 2: 1.5" conduit connection  <b>PE &amp; data communication:</b> 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	DC direct connection Stäubli Multi Contact MC4
		Conductive material		Al and Cu	Al and Cu

Efficiency	Max. efficiency	%	tbd	tbd
	Europ. efficiency ( $\eta_{EU}$ )	%	tbd	tbd
	MPP adaptation efficiency	%	tbd	tbd

- 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.

Protection devices	DC isolation measurement		Integrated	Integrated
	DC disconnecter		Integrated	Integrated
	RCMU		Integrated	Integrated
	Arc fault circuit interrupter, AFCI (Fronius Arc Guard)		tbd	tbd
	Reverse polarity protection		Integrated	Integrated
	DC/AC surge protection device		Type 1+2 or type 2	Type 1+2 or type 2



Interfaces	WLAN		Fronius Solar.web, Modbus TCP, JSON, 802.11b/g	Fronius Solar.web, Modbus TCP, JSON, 802.11b/g
	2 x Ethernet LAN RJ45 <sup>9)</sup>		10/100 Mbit; max. 100 m Fronius Solar.web, Modbus TCP, JSON Networking	10/100 Mbit; max. 100 m Fronius Solar.web, Modbus TCP, JSON Networking
	Wired shutdown (WSD)		Integrated	Integrated
	2 x RS485		Modbus RTU SunSpec (third-party provider)/Fronius Smart Meter	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	Connection to ripple control receiver, energy management, load management
	Datalogger and web server <sup>9)</sup>		Integrated	Integrated



## Technical Data Fronius Verto 30.0 – 33.3

		Unit	Verto 30.0				Verto 33.3			
Input data	Number of MPP trackers		4				4			
			PV 1	PV 2	PV 3	PV 4	PV 1	PV 2	PV 3	PV 4
	Number of DC connections		2	2	2	2	2	2	2	2
	Max. usable input current MPPT ( $I_{dc\ max, MPPT}$ )	A	28	28	28	28	28	28	28	28
	Max. usable input current per string ( $I_{dc\ max, MPPT}$ ) <sup>1)</sup>	A	28	28	28	28	28	28	28	28
	Max. module array short circuit current—MPPT ( $I_{sc\ pv, String}$ ) <sup>2)</sup>	A	50	50	50	50	50	50	50	50
	Max. module array short circuit current, per string ( $I_{sc\ pv, PV}$ ) <sup>2)</sup>	A	50	50	50	50	50	50	50	50
	Max. module array short circuit current—inverter ( $I_{sc\ pv, inverter}$ ) <sup>2)</sup>	A	150				150			
	Nominal input voltage ( $U_{dc,r}$ )	V	600				600			
	DC input voltage range ( $U_{dc\ min}-U_{dc\ max}$ )	V	150–1000				150–1000			
	Feed-in start-up input voltage ( $U_{dc\ start}$ )	V	tbd				tbd			
	Usable MPP voltage range ( $U_{mpp\ min}-U_{mpp\ max}$ ) <sup>1)</sup>	V	150–870				150–870			
	MPP voltage range (at rated power) ( $U_{mpp\ min}-U_{mpp\ max}$ )	V	360–870				400–870			
	Max. usable DC power ( $P_{dc\ max, PV}$ )	W <sub>peak</sub>	13 000				13 000			
	Max. PV generator output—MPPT ( $P_{PV\ max}$ )	W <sub>peak</sub>	20 000				20 000			
Max. PV generator output—inverter ( $P_{PV\ max}$ )	W <sub>peak</sub>	45 000				50 000				



Output data	AC rated power ( $P_{ac,r}$ )	W	29 990				33 300			
	Max. output power	VA	29 990				33 300			
			380 VAC	400 VAC	440 VAC	480 VAC	380 VAC	400 VAC	440 VAC	480 VAC
	AC output current ( $I_{ac,r}$ )	A	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 480/276				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)			
	Total harmonic distortion	%	< 1				< 1			
	Power factor ( $\cos \phi_{ac,r}$ )		0-1 ind./cap.				0-1 ind./cap.			

General data	Dimensions (height × width × depth)	mm	865 x 574 x 278				865 x 574 x 278			
	Weight (inverter/with packaging)	kg	44.75				44.75			
	Protection class		IP 66				IP 66			
	Safety class		1				1			
	Overvoltage category (DC/AC)		2/3				2/3			
	Night consumption	W	15				15			
	Cooling		Active air cooling				Active air cooling			
	Installation		Indoor and outdoor installation				Indoor and outdoor installation			
	Ambient temperature range	°C	-40 to +65				-40 to +65			
	Permissible humidity	%	0-100				0-100			



	Noise emissions	dB (A)	<55.6	<55.6
	Max. altitude above sea level	m	4000	4000
	Certificates and compliance with standards <sup>6)</sup>		tbd	tbd
	Life cycle analysis		tbd	tbd

Connection technology	AC	Cable cross-section	mm <sup>2</sup>	4-35	4-35
		Conductive material		Al and Cu	Al and Cu
		Cable gland		<b>AC:</b> M32 (Ø12-24.5 mm) Prepared for option 1: M50 cable gland (Ø10-35 mm) Option 2: 1.5" conduit connection  <b>PE &amp; data communication:</b> 2 x M32 (3 xØ 4.9-5.5 mm + 3 xØ 6.7-8.5 mm)	<b>AC:</b> M32 (Ø12-24.5 mm) Prepared for option 1: M50 cable gland (Ø10-35 mm) Option 2: 1.5" conduit connection  <b>PE &amp; data communication:</b> 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	DC direct connection Stäubli Multi Contact MC4
		Conductive material		Al and Cu	Al and Cu

Efficiency	Max. efficiency	%	tbd	tbd
	Europ. efficiency ( $\eta_{EU}$ )	%	tbd	tbd
	MPP adaptation efficiency	%	tbd	tbd

- 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.

Protection devices	DC isolation measurement		Integrated	Integrated
	DC disconnecter		Integrated	Integrated
	RCMU		Integrated	Integrated
	Arc fault circuit interrupter, AFCI (Fronius Arc Guard)		tbd	tbd
	Reverse polarity protection		Integrated	Integrated
	DC/AC surge protection device		Type 1+2 or type 2	Type 1+2 or type 2



Interfaces	WLAN		Fronius Solar.web, Modbus TCP, JSON, 802.11b/g	Fronius Solar.web, Modbus TCP, JSON, 802.11b/g
	2 x Ethernet LAN RJ45 <sup>9)</sup>		10/100 Mbit; max. 100 m Fronius Solar.web, Modbus TCP, JSON Networking	10/100 Mbit; max. 100 m Fronius Solar.web, Modbus TCP, JSON Networking
	Wired shutdown (WSD)		Integrated	Integrated
	2 x RS485		Modbus RTU SunSpec (third-party provider)/Fronius Smart Meter	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	Connection to ripple control receiver, energy management, load management
	Datalogger and web server <sup>9)</sup>		Integrated	Integrated