

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.

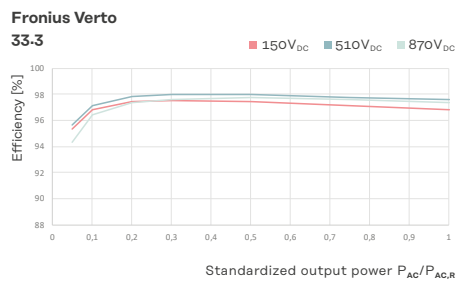
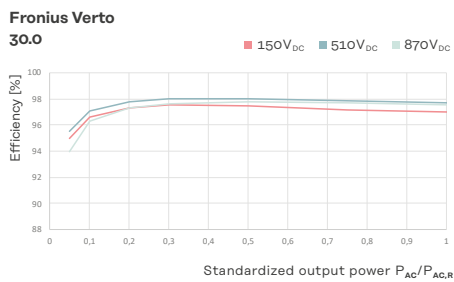
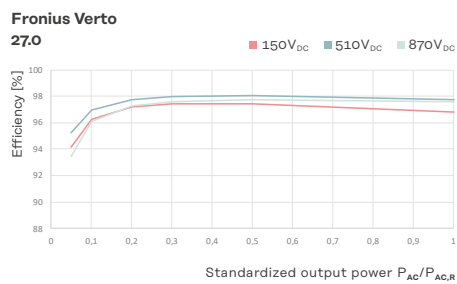
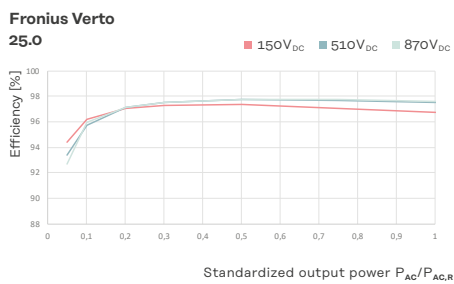
03 Optimal use

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.

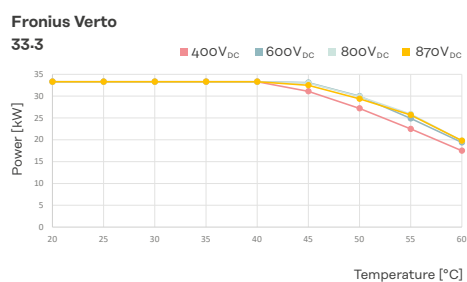
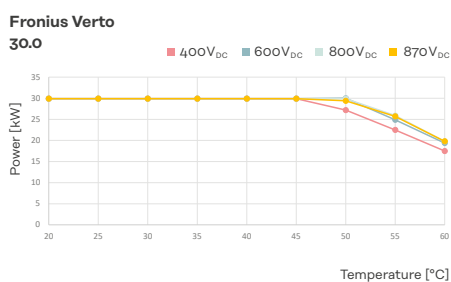
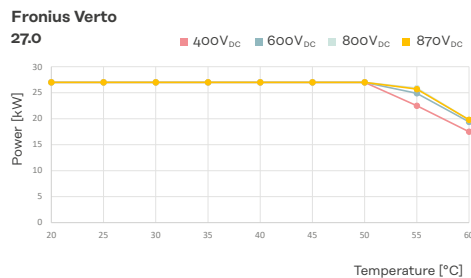
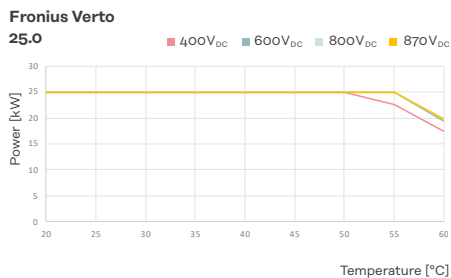


Fronius Verto

Efficiency



Power derating



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 ($P_{dc\ max, PV}$) | W _{peak} | 13,000 | | | | 13,000 | | | | 13,000 | | | | 13,000 | | | |
| | Max. PV generator output—MPPT ($P_{PV\ max}$) | W _{peak} | 20,000 | | | | 20,000 | | | | 20,000 | | | | 20,000 | | | |
| Max. PV generator output—inverter ($P_{PV\ max}$) | W _{peak} | 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 $I_{sc\ pv} = I_{sc\ max} \geq I_{sc\ (STC)} \times 1.25$ according to e.g.: IEC 60364-7-712, NEC 2020, AS/NZS 5033:2021.

Technical data

Verto 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 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 Wattlepilot and consumption regulators such as Fronius Ohmpilot.

For more information about the product, visit:

www.fronius.com/verto-en

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