

/ Perfect Welding / Solar Energy / Perfect Charging



# FRONIUS PRIMO

/ Solutions for a brighter tomorrow.



/ PC board replacement process

/ SnapINverter mounting system

/ Wi-Fi® interface

/ Design Flexibility

/ Smart Grid Ready

/ Arc Fault Circuit Interruption



/ With power categories ranging from 3.8 kW to 15.0 kW, the transformerless Fronius Primo is the ideal compact single-phase inverter for residential applications. The sleek design is equipped with the SnapINverter hinge mounting system which allows for lightweight, secure and convenient installation. The Fronius Primo has several integrated features that set it apart from competitors including dual powerpoint trackers, high system voltage, a wide input voltage range, Wi-Fi® and SunSpec Modbus interface, and Fronius' online and mobile monitoring platform Fronius Solar.web. The Fronius Primo also works seamlessly with the Fronius Rapid Shutdown Box as a reliable rapid shutdown solution outside the PV Array boundary.

## TECHNICAL DATA FRONIUS PRIMO

| GENERAL DATA                               | FRONIUS PRIMO 3.8 - 8.2   | FRONIUS PRIMO 10.0-15.0  |
|--|---|--|
| Dimensions (width x height x depth)        | 16.9 x 24.7 x 8.1 in.   | 20.1 x 28.5 x 8.9 in.  |
| Weight                                     | 47.29 lb.   | 82.5 lbs.  |
| Protection Class                           | NEMA 4X   |  |
| Night time consumption                     | < 1 W   |  |
| Inverter topology                          | Transformerless   |  |
| Cooling                                    | Variable speed fan  |  |
| Installation                               | Indoor and outdoor installation   |  |
| Ambient operating temperature range        | -40 - 131°F (-40 - 55°C)  | -40 - 140°F (-40 - 60°C)   |
| Permitted humidity                         | 0 - 100 %   |  |
| Elevation                                  | 4000m (13123 ft)  |  |
| DC connection terminals                    | 4x DC+ and 4x DC- screw terminals for copper (solid / stranded / fine stranded) or aluminum (solid / stranded)  | 4x DC+1, 2x DC+2 and 6x DC- screw terminals for copper (solid / stranded / fine stranded) or aluminum (solid / stranded)   |
| AC connection terminals                    | Screw terminals 12 - 6 AWG  |  |
| Revenue Grade Metering                     | Optional (ANSI C12.1 accuracy)  |  |
| Certificates and compliance with standards | UL 1741-2010 Second Edition (incl. UL1741 Supplement SA 2016-09 for California Rule 21 and Hawaiian Electric Code Rule 14H), UL1998 (for functions: AFCI, RCMU and isolation monitoring), IEEE 1547-2003, IEEE 1547.1-2003, ANSI/IEEE C62.41, FCC Part 15 A & B, NEC 2017 Article 690, C22. 2 No. 107.1-16, UL1699B Issue 2-2013, CSA TIL M-07 Issue 1 - 2013 | UL 1741-2010 Second Edition (incl. UL1741 Supplement SA 2016-09 for California Rule 21 and Hawaiian Electric Code Rule 14H), UL1998 (for functions: AFCI, RCMU and isolation monitoring), IEEE 1547-2003, IEEE 1547.1-2003, ANSI/IEEE C62.41, FCC Part 15 A & B, NEC 2017 Article 690, C22. 2 No. 107.1-16, UL1699B Issue 2-2013, CSA TIL M-07 Issue 1 -2013 |

| PROTECTIVE DEVICES   | STANDARD WITH ALL PRIMO MODELS  |
|--|---|
| DC reverse polarity protection                             | Yes   |
| Anti Islanding   | Internal; in accordance with UL 1741-2016-09, IEEE 1547-2003 and NEC 2017 |
| Over temperature protection                                | Output power derating/ Active cooling                                     |
| AFCI   | Yes   |
| Rapid shutdown compliant                                   | Per Sect. 690.12 of 2014 (of NEC 2017 prior to Jan 2019)                  |
| Ground Fault Protection with Isolation Monitor Interrupter | Yes   |
| DC disconnect  | Yes   |

  

| INTERFACES                           | STANDARD WITH ALL PRIMO MODELS   |
|--------------------------------------|--|
| USB (A socket)                       | Datalogging and inverter update possible via USB                           |
| 2x RS422 (RJ45 socket)               | Fronius Solar Net, interface protocol                                      |
| Wi-fi®/Ethernet LAN                  | Wireless standard 802.11 b/g/n/Fronius Solar.web, SunSpec Modbus TCP, JSON |
| Datalogger and Webservice            | Included   |
| Serial RS485                         | SunSpec Modbus RTU or meter connection                                     |
| 6 inputs or 4 digital inputs/outputs | Load management; signaling, multipurpose I/O                               |

\*The term Wi-Fi® is a registered trademark of the Wi-Fi Alliance.

## TECHNICAL DATA FRONIUS PRIMO

| INPUT DATA  |             | PRIMO 3.8-1   | PRIMO 5.0-1       | PRIMO 6.0-1       | PRIMO 7.6-1       | PRIMO 8.2-1     |
|---|-------------|---|-------------------|-------------------|-------------------|-----------------|
| Recommended PV power (kWp)  |             | 3.0 - 6.0 kW  | 4.0 - 7.8 kW      | 4.8 - 9.3 kW      | 6.1 - 11.7 kW     | 6.6 - 12.7 kW   |
| Max. usable input current (MPPT 1/MPPT 2)                               |             | 18 A / 18 A   |                   |                   |                   |                 |
| Max. usable input current (MPPT 1+MPPT 2)                               |             | 36 A  |                   |                   |                   |                 |
| Max. array short circuit current (1.5* I <sub>max</sub> ) (MPPT1/MPPT2) |             | 27 A / 27 A   |                   |                   |                   |                 |
| Nominal input voltage   |             | 410 V   | 420 V             | 420 V             | 420V              | 420 V           |
| Operating voltage range   |             | 80 V - 600 V  |                   |                   |                   |                 |
| DC startup voltage  |             | 80 V  |                   |                   |                   |                 |
| MPP Voltage Range   |             | 200-480 V   | 200-400 V         | 240-480 V         | 250-480 V         | 270-480 V       |
| Max. input voltage  |             | 600 V (1000 V optional <sup>1</sup> )   |                   |                   |                   |                 |
| Admissible conductor size DC  |             | AWG 14 - AWG 6 copper (solid / stranded / fine stranded)(AWG 10 copper or AWG 8 aluminium for overcurrent protective devices up to 60A, from 61 to 100A minimum AWG 8 for copper or AWG 6 aluminium has to be used) , AWG 6 - AWG 2 copper(solid / stranded) MultiContactWiringable with AWG 12 |                   |                   |                   |                 |
| Number of MPPT  |             | 2   |                   |                   |                   |                 |
| OUTPUT DATA   |             | PRIMO 3.8-1   | PRIMO 5.0-1       | PRIMO 6.0-1       | PRIMO 7.6-1       | PRIMO 8.2-1     |
| Max. output power   | 208 V/240 V | 3800 VA/3800 VA   | 5000 VA/5000 VA   | 6000 VA/6000 VA   | 7600 VA/7600 VA   | 7900 VA/8200 VA |
| Output configuration  |             | 208/240 V   |                   |                   |                   |                 |
| Frequency range (adjustable)  |             | 45.0 - 55.0 Hz / 50 - 66 Hz   |                   |                   |                   |                 |
| Operating frequency range default for CAL setups                        |             | -/ 58.5 - 60.5 Hz   |                   |                   |                   |                 |
| Operating frequency range default for HI setups                         |             | -/ 57.0 - 63.0 Hz   |                   |                   |                   |                 |
| Nominal operating frequency   |             | 60 Hz   |                   |                   |                   |                 |
| Admissible conductor size AC  |             | AWG 14 - AWG 6  |                   |                   |                   |                 |
| Total harmonic distortion   |             | < 5.0 %   |                   |                   |                   |                 |
| Power factor range  |             | 0.85-1 ind./cap   |                   |                   |                   |                 |
| Max. continuous output current  | 208 V       | 18.3 A  | 24.0 A            | 28.8 A            | 36.5 A            | 38.0 A          |
|   | 240 V       | 15.8 A  | 20.8 A            | 25.0 A            | 31.7 A            | 34.2 A          |
| OCPD/AC breaker size  | 208V        | 25 A  | 30 A              | 40 A              | 50 A              | 50 A            |
|   | 240 V       | 20 A  | 30 A              | 35 A              | 40 A              | 45 A            |
| Max. Efficiency   |             | 96.7 %  | 96.9 %            | 96.9 %            | 96.9 %            | 97.0 %          |
| CEC Efficiency  |             | 95.0 %  | 95.5 %            | 96.0 %            | 96.0 %            | 96.5 %          |
| INPUT DATA  |             | PRIMO 10.0-1  | PRIMO 11.4-1      | PRIMO 12.5-1      | PRIMO 15.0-1      |                 |
| Recommended PV power (kWp)  |             | 8.0 - 12.0 kW   | 9.1 - 13.7 kW     | 10.0 - 15.0 kW    | 12.0 - 18.0 kW    |                 |
| Max. usable input current (MPPT 1/MPPT 2)                               |             | 33.0 / 18.0 A   |                   |                   |                   |                 |
| Max. usable input current (MPPT 1+MPPT 2)                               |             | 51 A  |                   |                   |                   |                 |
| Max. array short circuit current (1.5 * I <sub>max</sub> )              |             | 49.5 A/ 27.0  |                   |                   |                   |                 |
| Nominal input voltage   |             | 655 V   | 660 V             | 665 V             | 680 V             |                 |
| Operating voltage range   |             | 80 V - 1,000 V  |                   |                   |                   |                 |
| DC startup voltage  |             | 80 V  |                   |                   |                   |                 |
| MPP Voltage Range   |             | 220-800 V   | 240-800 V         | 260-800 V         | 320-800 V         |                 |
| Max. input voltage  |             | 1000 V  |                   |                   |                   |                 |
| Admissible conductor size DC  |             | AWG 14 - AWG 6 copper direct, AWG 6 aluminum direct (AWG 10 copper or AWG 8 aluminium for overcurrent protective devices up to 60A, from 61 to 100A minimum AWG 8 for copper or AWG 6 aluminium has to be used), AWG 4 - AWG 2 copper or aluminium with optional input combiner                 |                   |                   |                   |                 |
| Number of MPPT  |             | 2   |                   |                   |                   |                 |
| Integrated DC string fuse holders                                       |             | 4- and 4+ for MPPT 1 / no fusing required on MPPT 2   |                   |                   |                   |                 |
| OUTPUT DATA   |             | PRIMO 10.0-1  | PRIMO 11.4-1      | PRIMO 12.5-1      | PRIMO 15.0-1      |                 |
| Max. output power   | 208 V/240 V | 9995 VA/9995 VA   | 11400 VA/11400 VA | 12500 VA/12500 VA | 13750 VA/15000 VA |                 |
| Output configuration  |             | 1-NPE 208/240 V   |                   |                   |                   |                 |
| Frequency range (adjustable)  |             | 45-55 Hz / 50-66 Hz   |                   |                   |                   |                 |
| Operating frequency range default for CAL setups                        |             | -/ 58.5 - 60.5 Hz   |                   |                   |                   |                 |
| Operating frequency range default for HI setups                         |             | -/ 57.0 - 63.0 Hz   |                   |                   |                   |                 |
| Nominal operating frequency   |             | 60 Hz   |                   |                   |                   |                 |
| Admissible conductor size AC  |             | AWG 10- AWG 2 copper (solid/stranded/fine stranded)(AWG 10 copper or AWG 8 aluminium for overcurrent protective devices up to 60 A, from 61 to 100A minimum AWG 6 aluminium has to be used), AWG 6-AWG 2 copper (solid/stranded) Multi Contact Wiring able with AWG 12                          |                   |                   |                   |                 |
| Total harmonic distortion   |             | < 2.5 %   |                   |                   |                   |                 |
| Power factor range  |             | 0-1 ind./cap.   |                   |                   |                   |                 |
| Max. continuous output current  | 208 V       | 48.1 A  | 54.8 A            | 60.1 A            | 66.1 A            |                 |
|   | 240 V       | 41.6 A  | 47.5 A            | 52.1 A            | 62.5 A            |                 |
| OCPD/AC breaker size  | 208 V       | 70 A  | 70 A              | 80 A              | 90 A              |                 |
|   | 240 V       | 60 A  | 60 A              | 70 A              | 80 A              |                 |
| Max. Efficiency   |             | 96.7 %  |                   |                   |                   |                 |
| CEC Efficiency 600 V/ 1000 V  | 240 V       | 96.0 % / 96.5 %   |                   |                   | 96.5 % / 97.0 %   |                 |

<sup>1</sup> inverter rated for up to 1000 V open-circuit. Nominal, Operating, and MPP voltages based on 600 V system design. Actual DC system voltage is dependent on PV string-sizing, not inverter input capacity.

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### THREE BUSINESS UNITS, ONE GOAL: TO SET THE STANDARD THROUGH TECHNOLOGICAL ADVANCEMENT.

What began in 1945 as a one-man operation now sets technological standards in the fields of welding technology, photovoltaics and battery charging. Today, the company has around 3,800 employees worldwide and 1,242 patents for product development show the innovative spirit within the company. Sustainable development means for us to implement environmentally relevant and social aspects equally with economic factors. Our goal has remained constant throughout: to be the innovation leader.

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