

FRONIUS PRIMO

/ The communicative inverter for optimised energy management.

AVAILABLE FROM Q1 2015



/ PC board replacement process



/ SnapINverter Technology



/ Integrated data communication



/ SuperFlex Design



/ Dynamic Peak Manager



/ Smart Grid Ready

/ The Fronius Primo in power categories from 3.0 to 8.2 kW perfectly completes the new SnapINverter generation. This single-phase, transformerless device is the ideal inverter for private households. Its innovative SuperFlex Design provides maximum flexibility in system design, while the SnapINverter mounting system makes installation and maintenance easier than ever before. The communication package included as standard, with WLAN, energy management, several interfaces and much more besides, makes the Fronius Primo a communicative inverter for owner-occupiers.

TECHNICAL DATA FRONIUS PRIMO (3.0-1, 3.5-1, 3.6-1, 4.0-1, 4.6-1)¹⁾

| INPUT DATA | PRIMO 3.0-1 | PRIMO 3.5-1 | PRIMO 3.6-1 | PRIMO 4.0-1 | PRIMO 4.6-1 |
|--|-------------|-------------|-----------------|-------------|-------------|
| Max. input current ($I_{dc\ max\ 1} / I_{dc\ max\ 2}$) | | | 12.0 A / 12.0 A | | |
| Max. array short circuit current (MPP ₁ /MPP ₂) | | | 18.0 A / 18.0 A | | |
| Min. input voltage ($U_{dc\ min}$) | | | 150 V | | |
| Feed-in start voltage ($U_{dc\ start}$) | | | 200 V | | |
| Nominal input voltage ($U_{dc\ 1}$) | | | 650 V | | |
| Max. Eingangsspannung ($U_{dc\ max}$) | | | 1,000 V | | |
| MPP voltage range ($U_{mpp\ min} - U_{mpp\ max}$) | | 200 - 800 V | | 210 - 800 V | 240 - 800 V |
| Number MPP trackers | | | 2 | | |
| Number of DC connections | | | 2 + 2 | | |

| OUTPUT DATA | PRIMO 3.0-1 | PRIMO 3.5-1 | PRIMO 3.6-1 | PRIMO 4.0-1 | PRIMO 4.6-1 |
|---------------------------------------|-------------|-------------|---------------------------------------|-------------|-------------|
| AC nominal output (Pac, r) | 3,000 W | 3,500 W | 3,680 W | 4,000 W | 4,600 W |
| Max. output power | 3,000 VA | 3,500 VA | 3,680 VA | 4,000 VA | 4,600 VA |
| Max. output current ($I_{ac\ max}$) | 15.2 A | 17.7 A | 18.6 A | 20.2 A | 23.2 A |
| Grid connection (voltage range) | | | 1 - NPE 220 V / 230 V (180 V - 270 V) | | |
| Frequency (Frequency range) | | | 50 Hz / 60 Hz (45 - 65 Hz) | | |
| Total harmonic distortion | | | < 5 % | | |
| Power factor ($\cos \phi_{ac3}$) | | | 0,85 - 1 ind. / cap. | | |

¹⁾ Preliminary data.

| GENERAL DATA | PRIMO 3.0-1 | PRIMO 3.5-1 | PRIMO 3.6-1 | PRIMO 4.0-1 | PRIMO 4.6-1 |
|--|--|-------------|-------------|-------------|-------------|
| Dimensions (height x width x depth) | 645 x 431 x 204 mm | | | | |
| Weight | 21.5 kg | | | | |
| Degree of protection | IP 65 | | | | |
| Protection class | 1 | | | | |
| Overvoltage category (DC / AC) ¹⁾ | 2 / 3 | | | | |
| Night time consumption | < 1 W | | | | |
| Inverter design | Transformerless | | | | |
| Cooling | Regulated air cooling | | | | |
| Installation | Indoor and outdoor installation | | | | |
| Ambient temperature range | -40 - +55 °C | | | | |
| Permitted humidity | 0 - 100 % | | | | |
| Max. altitude | 4,000 m | | | | |
| DC connection technology | 2x DC+1, 2x DC+2 and 4x DC- screw terminals 2.5 - 16 mm ² | | | | |
| Mains connection technology | 3-pole AC screw terminals 2.5 - 16 mm ² | | | | |
| Certificates and compliance with standards | n.a. | | | | |

| EFFICIENCY | PRIMO 3.0-1 | PRIMO 3.5-1 | PRIMO 3.6-1 | PRIMO 4.0-1 | PRIMO 4.6-1 |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Max. efficiency | ~ 97.7 % | | | | |
| European efficiency (η_{EU}) | n.a. | | | | |
| MPP adaptation efficiency | > 99.9 % | | | | |

| PROTECTIVE DEVICES | PRIMO 3.0-1 | PRIMO 3.5-1 | PRIMO 3.6-1 | PRIMO 4.0-1 | PRIMO 4.6-1 |
|---------------------------|---|-------------|-------------|-------------|-------------|
| DC insulation measurement | Yes | | | | |
| Overload behaviour | Operating point shift. Power limitation | | | | |
| DC disconnecter | Yes | | | | |

| INTERFACES | PRIMO 3.0-1 | PRIMO 3.5-1 | PRIMO 3.6-1 | PRIMO 4.0-1 | PRIMO 4.6-1 |
|--------------------------------------|---|-------------|-------------|-------------|-------------|
| WLAN / Ethernet LAN | Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON) | | | | |
| 6 inputs and 4 digital in/out | Interface to ripple control receiver | | | | |
| USB (A socket) ²⁾ | Datalogging, inverter update via USB flash drive | | | | |
| 2x RS422 (RJ45 socket) ²⁾ | Fronius Solar Net | | | | |
| Signalling output ²⁾ | Energy management (potential-free relay output) | | | | |
| Datalogger and Webservice | Included | | | | |
| External input ²⁾ | SO-Meter Interface / Input for overvoltage protection | | | | |
| RS485 | Modbus RTU SunSpec or meter connection | | | | |

¹⁾ According to IEC 62109-1. ²⁾ Also available in the light version.

TECHNICAL DATA FRONIUS PRIMO (5.0-1, 5.0-1 AUS, 6.0-1, 8.2-1)¹⁾

| INPUT DATA | PRIMO 5.0-1 | PRIMO 5.0-1 AUS | PRIMO 6.0-1 | PRIMO 8.2-1 |
|--|-----------------|-----------------|-----------------|-------------|
| Max. input current ($I_{dc\ max\ 1} / I_{dc\ max\ 2}$) | 12.0 A / 12.0 A | | 18.0 A / 18.0 A | |
| Max. array short circuit current (MPP ₁ /MPP ₂) | 18.0 A / 18.0 A | | 27.0 A / 27.0 A | |
| Min. input voltage ($U_{dc\ min}$) | 150 V | | | |
| Feed-in start voltage ($U_{dc\ start}$) | 200 V | | | |
| Nominal input voltage ($U_{dc\ r}$) | 650 V | | | |
| Max. input voltage ($U_{dc\ max}$) | 1,000 V | | | |
| MPP voltage range ($U_{inpp\ min} - U_{inpp\ max}$) | 240 - 800 V | | | 270 - 800 V |
| Number MPP trackers | 2 | | | |
| Number of DC connections | 2 + 2 | | | |

| OUTPUT DATA | PRIMO 5.0-1 | PRIMO 5.0-1 AUS | PRIMO 6.0-1 | PRIMO 8.2-1 |
|---|---------------------------------------|-----------------|-------------|-------------|
| AC nominal output (P _{ac, r}) | 5,000 W | 4,600 W | 6,000 W | 8,200 W |
| Max. output power | 5,000 VA | 5,000 VA | 6,000 VA | 8,200 VA |
| Max. output current ($I_{ac\ max}$) | 25.0 A | 25.3 A | 30.3 A | 37.5 A |
| Grid connection (voltage range) | 1 - NPE 220 V / 230 V (180 V - 270 V) | | | |
| Frequency (Frequency range) | 50 Hz / 60 Hz (45 - 65 Hz) | | | |
| Total harmonic distortion | < 5 % | | | |
| Power factor (cos $\phi_{ac,r}$) | 0,85 - 1 ind. / cap. | | | |

¹⁾ Preliminary data.

| GENERAL DATA | PRIMO 5.0-1 | PRIMO 5.0-1 AUS | PRIMO 6.0-1 | PRIMO 8.2-1 |
|--|--|-----------------|-------------|-------------|
| Dimensions (height x width x depth) | 645 x 431 x 204 mm | | | |
| Weight | 21.5 kg | | | |
| Degree of protection | IP 65 | | | |
| Protection class | 1 | | | |
| Overvoltage category (DC / AC) ¹⁾ | 2 / 3 | | | |
| Night time consumption | < 1 W | | | |
| Inverter design | Transformerless | | | |
| Cooling | Regulated air cooling | | | |
| Installation | Indoor and outdoor installation | | | |
| Ambient temperature range | -40 - +55 °C | | | |
| Permitted humidity | 0 - 100 % | | | |
| Max. altitude | 4,000 m | | | |
| DC connection technology | 2x DC+1, 2x DC+2 and 4x DC- screw terminals 2.5 - 16 mm ² | | | |
| Mains connection technology | 3-pole AC screw terminals 2.5 - 16 mm ² | | | |
| Certificates and compliance with standards | n.a. | | | |

| EFFICIENCY | PRIMO 5.0-1 | PRIMO 5.0-1 AUS | PRIMO 6.0-1 | PRIMO 8.2-1 |
|-------------------------------------|-------------|-----------------|-------------|-------------|
| Max. efficiency | ~ 97.8 % | | ~ 97.9 % | |
| European efficiency (η_{EU}) | n.a. | | | |
| MPP adaptation efficiency | > 99.9 % | | | |

| PROTECTIVE DEVICES | PRIMO 5.0-1 | PRIMO 5.0-1 AUS | PRIMO 6.0-1 | PRIMO 8.2-1 |
|---------------------------|---|-----------------|-------------|-------------|
| DC insulation measurement | Yes | | | |
| Overload behaviour | Operating point shift, power limitation | | | |
| DC disconnecter | Yes | | | |

| INTERFACES | PRIMO 5.0-1 | PRIMO 5.0-1 AUS | PRIMO 6.0-1 | PRIMO 8.2-1 |
|--------------------------------------|---|-----------------|-------------|-------------|
| WLAN / Ethernet LAN | Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON) | | | |
| 6 inputs and 4 digital in/out | Interface to ripple control receiver | | | |
| USB (A socket) ²⁾ | Datalogging, inverter update via USB flash drive | | | |
| 2x RS422 (RJ45 socket) ²⁾ | Fronius Solar Net | | | |
| Signalling output ²⁾ | Energy management (potential-free relay output) | | | |
| Datalogger and Webserver | Included | | | |
| External input ²⁾ | S0-Meter Interface / Input for overvoltage protection | | | |
| RS485 | Modbus RTU SunSpec or meter connection | | | |

¹⁾ According to IEC 62109-1. ²⁾ Also available in the light version.

WE HAVE THREE DIVISIONS AND ONE PASSION: SHIFTING THE LIMITS OF POSSIBILITY.

/ What Günter Fronius started in 1945 in Pettenbach, Austria, has now become a modern day success story. Today, the company has around 3,000 employees worldwide and has been granted more than 1,000 patents. Our goal has remained constant throughout: to be the innovation leader. We shift the limits of what's possible. While others progress step by step, we innovate in leaps and bounds. The responsible use of our resources forms the basis of our corporate policy.

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/ We develop products and complete systems - both manual and automated - as well as the corresponding services for our customers in the global welding technology market. We have made it our goal to decode the "DNA of the arc".

SOLAR ENERGY

/ The challenge is to make the leap to a regenerative energy supply. Our vision is to use renewable energy to achieve energy independence. With our services, inverters and energy-storage systems for optimising energy yields, we are one of the leading suppliers in the photovoltaics sector.

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/ As know-how leaders in the world of battery charging, we deliver exceptional solutions to create the maximum benefit for our customers. For the intralogistics sector, we are committed to energy flow optimisation for electric forklift trucks and are constantly striving for the next innovation. Our powerful charging systems for vehicle workshops guarantee safe and reliable processes.

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