

# 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) <sup>1)</sup>

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 <sub>1</sub> /MPP <sub>2</sub> )			18.0 A / 18.0 A		
Min. input voltage ( $U_{dc\ min}$ )			80 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		
Usable MPP voltage range ( $U_{mpp\ min} - U_{mpp\ max}$ )			80 V - 800 V		
MPP voltage range at nominal power ( $U_{mpp\ min} - U_{mpp\ max}$ )		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 %				
<sup>1)</sup> Power factor ( $\cos\ \phi_{ac,1}$ )	0,85 - 1 ind. / cap.				

<sup>1)</sup> 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) <sup>1)</sup>	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 <sup>2</sup>				
Mains connection technology	3-pole AC screw terminals 2.5 - 16 mm <sup>2</sup>				
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 ( $\eta_{EU}$ )	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) <sup>2)</sup>	Datalogging, inverter update via USB flash drive				
2x RS422 (RJ45 socket) <sup>2)</sup>	Fronius Solar Net				
Signalling output <sup>2)</sup>	Energy management (potential-free relay output)				
Datalogger and Webservice	Included				
External input <sup>2)</sup>	SO-Meter Interface / Input for overvoltage protection				
RS485	Modbus RTU SunSpec or meter connection				

<sup>1)</sup> According to IEC 62109-1. <sup>2)</sup> Also available in the light version.

## TECHNICAL DATA FRONIUS PRIMO (5.0-1, 5.0-1 AUS, 6.0-1, 8.2-1)<sup>1)</sup>

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 <sub>1</sub> /MPP <sub>2</sub> )	18.0 A / 18.0 A		27.0 A / 27.0 A	
Min. input voltage ( $U_{dc\ min}$ )	80 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			
Usable MPP voltage range ( $U_{mpp\ min} - U_{mpp\ max}$ )	80 V - 800 V			
MPP voltage range at nominal power ( $U_{mpp\ min} - U_{mpp\ max}$ )	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.			

<sup>1)</sup> 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) <sup>1)</sup>	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			
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Mains connection technology	3-pole AC screw terminals 2.5 - 16 mm <sup>2</sup>			
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 ( $\eta_{EU}$ )	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			

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2x RS422 (RJ45 socket) <sup>2)</sup>	Fronius Solar Net			
Signalling output <sup>2)</sup>	Energy management (potential-free relay output)			
Datalogger and Webservice	Included			
External input <sup>2)</sup>	S0-Meter Interface / Input for overvoltage protection			
RS485	Modbus RTU SunSpec or meter connection			

<sup>1)</sup> According to IEC 62109-1. <sup>2)</sup> Also available in the light version.

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