Maxima.SOLAR

FRONIUS PRIMO

The communicative inverter for optimised energy management.
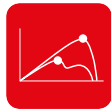
SnapINverter Technology

Integrated data communication

SuperFlex Design

Dynamic Peak Manager

Smart Grid Ready

Zero feed-in

The Fronius Primo in power categories from 3.0 to 8.2 kW perfectly completes the 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)

INPUT DATA	PRIMO 3.0-1	PRIMO 3.5-1	PRIMO 3.6-1	PRIMO 4.0-1	PRIMO 4.6-1
Number of MPP trackers			2		
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		
DC input voltage range ($U_{dc\,min}$ – $U_{dc\,max}$)			80 - 1000 V		
Feed-in start voltage ($U_{dc\,start}$)			80 V		
Usable MPP voltage range			80 - 800 V		
Number of DC connections			2 + 2		
Max. PV generator output ($P_{dc\,max}$)	4.5 kW$_{peak}$	5.3 kW$_{peak}$	5.5 kW$_{peak}$	6.0 kW$_{peak}$	6.9 kW$_{peak}$

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 ($P_{ac,r}$)	3,000 W	3,500 W	3,680 W	4,000 W	4,600 W
Max. output power / rated apparent power	3,000 VA	3,500 VA	3,680 VA	4,000 VA	4,600 VA
AC output current ($I_{ac\,nom}$)	13.0 A	15.2 A	16.0 A	17.4 A	20.0 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			< 3 %		
Power factor (cos $\varphi_{ac,r}$)			0.85 - 1 ind. / cap.		

Visit Our Website
www.maxima.solar

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

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)			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			4x DC+ and 4x DC- screw terminals 2.5 - 16 mm²		
AC connection technology			3-pole AC screw terminals 2.5 - 16 mm²		
Certificates and compliance with standards			DIN V VDE 0126-1-1/A1, IEC 62109-1/-2, IEC 62116, IEC 61727, AS 4777-2, AS 4777-3, G98/1, G99/1, CEI 0-21, VDE AR N 4105		
Country of manufacture			Austria		

EFFICIENCY	PRIMO 3.0-1	PRIMO 3.5-1	PRIMO 3.6-1	PRIMO 4.0-1	PRIMO 4.6-1
Max. efficiency	98.0 %	98.0 %	98.0 %	98.1 %	98.1 %
European efficiency (ηEU)	96.1 %	96.8 %	96.8 %	97.0 %	97.0 %
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 disconnector			Yes		
Reverse polarity protection			Yes		
RCMU			Yes		

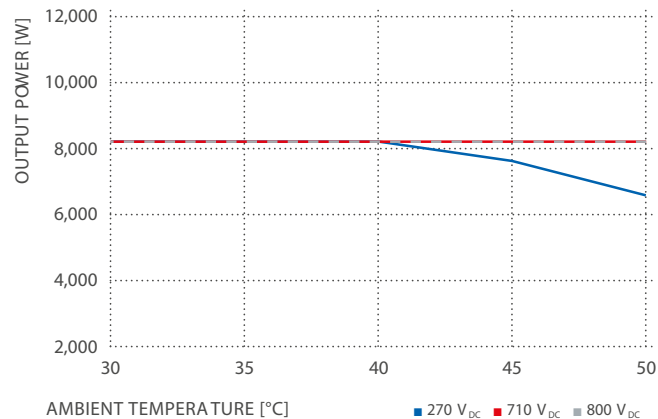| INTERFACES	PRIMO 3.0-1	PRIMO 3.5-1	PRIMO 3.6-1	PRIMO 4.0-1	PRIMO 4.6-1
WLAN / Ethernet LAN			Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON)		
6 inputs and 4 digital in/out			Interface to ripple control receiver		
USB (A socket)[2]			Datalogging, inverter update via USB flash drive		
2x RS422 (RJ45 socket)[2]			Fronius Solar Net		
Signalling output[1]			Energy management (potential-free relay output)		
Datalogger and Webserver			Included		
External input[1]			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.
Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

FRONIUS PRIMO 8.2-1 EFFICIENCY CURVE

Axis: EFFICIENCY [%] (82 to 100) vs STANDARDISED OUTPUT POWER $P_{AC}/P_{AC,R}$ (0 to 1)

Legend: ■ 270 V_{DC} ■ 710 V_{DC} ■ 800 V_{DC}
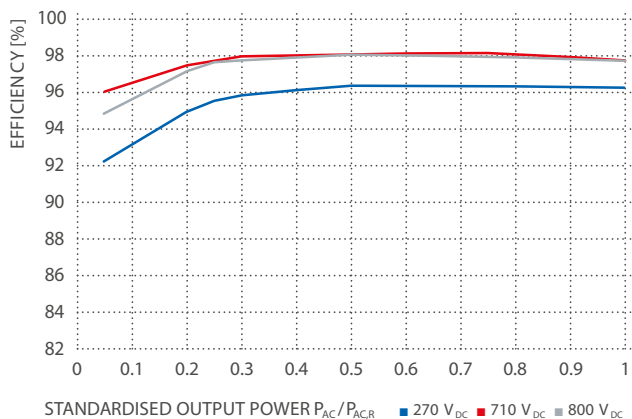
FRONIUS PRIMO 8.2-1 TEMPERATURE DERATING

Axis: OUTPUT POWER [W] (2,000 to 12,000) vs AMBIENT TEMPERATURE [°C] (30 to 50)

Legend: ■ 270 V_{DC} ■ 710 V_{DC} ■ 800 V_{DC}

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

INPUT DATA	PRIMO 5.0-1	PRIMO 5.0-1 AUS	PRIMO 6.0-1	PRIMO 8.2-1
Number of MPP trackers		2		
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	
DC input voltage range ($U_{dc\,min}$ - $U_{dc\,max}$)		80 - 1,000 V		
Feed-in start voltage ($U_{dc\,start}$)		80 V		
Usable MPP voltage range		80 - 800 V		
Number of DC connections		2 + 2		
Max. PV generator output ($P_{dc\,max}$)	7.5 kW$_{peak}$	7.5 kW$_{peak}$	9.0 kW$_{peak}$	12.3 kW$_{peak}$

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 / rated apparent power	5,000 VA	5,000 VA / 4,600 VA	6,000 VA	8,200 VA
AC output current ($I_{ac\,nom}$)	21.7 A	21.7 A	26.1 A	35.7 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		< 3 %		
Power factor (cos $\varphi_{ac,r}$)		0.85 - 1 ind. / cap.		

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)		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		4x DC+ and 4x DC- screw terminals 2.5 - 16 mm²		
AC connection technology		3-pole AC screw terminals 2.5 - 16 mm²		
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Country of manufacture		Austria		

[1] According to IEC 62109-1.
[2] Fronius Primo 5.0-1, Fronius Primo 6.0-1 and Fronius Primo 8.2-1 are not fully compliant with VDE AR N 4105.
Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

EFFICIENCY	PRIMO 5.0-1	PRIMO 5.0-1 AUS	PRIMO 6.0-1	PRIMO 8.2-1
Max. efficiency	98.1 %	98.1 %	98.1 %	98.1 %
European efficiency (ηEU)	97.1 %	97.1 %	97.3 %	97.5 %
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 disconnector	Yes			
Reverse polarity protection	Yes			
RCMU	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[1])	Datalogging, inverter update via USB flash drive			
2x RS422 (RJ45 socket[1])	Fronius Solar Net			
Signalling output[1]	Energy management (potential-free relay output)			
Datalogger and Webserver	Included			
External input[1]	S0-Meter Interface / Input for overvoltage protection			
RS485	Modbus RTU SunSpec or meter connection			

[1] Also available in the light version.
Further information and technical data can be found at www.fronius.com.

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Further information about all Fronius products and our global sales partners and representatives can be found at www.fronius.com

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