

Fronius Primo 12.5-1 208-240



The powerful single-phase inverter for residential systems.



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 and unrestricted use indoors and outdoors. Other standard features include a Wi-Fi and SunSpec Modbus interface for seamless monitoring and datalogging, Arc Fault Circuit Interruption (AFCI), integrated fuse holders and Fronius's superb online and mobile platform Fronius Solar.web. The Fronius Primo is designed to adjust to future standards, offering a complete solution to code restrictions and technical innovations of tomorrow. It also works seamlessly with the Fronius Rapid Shutdown Box for a reliable NEC 2014 solution. This great solution is now also available with a Revenue Grade Metering option, completely integrated.

Technical Data

INPUT DATA		Fronius Primo 12.5-1
Recommended PV power (kWp)		10.0 kW - 15.0 kW
Max. usable input current (MPPT 1/MPPT 2)		49.5A/27A
Max. array short circuit current (1.25 I _{max}) (MPPT 1/MPPT 2)		41.3A/22.5A
Operating voltage range		80 V - 600 V
Max. input voltage		600 V
Nominal input voltage		425 V
Admissible conductor size DC		AWG 14 - AWG 6 copper direct, AWG 6 aluminum direct, AWG 4 - AWG 2 copper or aluminum with input combiner
MPP Voltage Range		260 - 480 V
Integrated DC string fuse holders		4+ and 4+ for MPPT 1 / no fusing required on MPPT 2
Number of MPPT		2
OUTPUT DATA		Fronius Primo 12.5-1
Max. output power 208 / 240 V	12500 W	
Max. continuous output current 208 / 240 V	60.1 A / 52.1 A	
Max. efficiency	96.7%	
Admissible conductor size AC		(AWG 10 copper or AWG 8 aluminum for overcurrent protective devices up to 60A, from 61 to 100A minimum AWG 8 for copper or AWG 6 aluminum has to be used)
Grid connection		208 / 240 V
Frequency		60 Hz
Total harmonic distortion		< 2.5%
Power factor (cos φ _{ac,r})		0 - 1 ind./cap.
GENERAL DATA		Fronius Primo 12.5-1
Dimensions (width x height x depth)		20.1 x 28.5 x 8.9 in.
Weight		82.5lbs
Degree of protection		NEMA 4X
Night time consumption		< 1 W
Inverter topology		Transformerless
Cooling		Variable speed fan
Installation		Indoor and outdoor installation
Ambient operating temperature range		-40 - 140°F (-40 - 60°C)
Permitted humidity		0 - 100 %
DC connection terminals		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 12-6AWG
Certificates and compliance with standards		UL 1741-2015, 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 Article 690-2014, C22. 2 No. 107.1-01 (September 2001), UL1699B Issue 2 -2013, CSA TIL M-07 Issue 1 -2013
PROTECTIVE DEVICES		STANDARD WITH ALL PRIMO MODELS
AFCI & 2014 NEC Ready		Yes
Ground Fault Protection with Isolation Monitor Interrupter		Yes
DC disconnect		Yes
DC reverse polarity protection		Yes
INTERFACES		STANDARD WITH ALL PRIMO MODELS
Wi-Fi/Ethernet/Serial		Wireless standard 802.11 b/g/n / Fronius Solar.web, SunSpec Modbus TCP, JSON / SunSpec Modbus RTU
6 inputs or 4 digital inputs/outputs		External relay controls
USB (A socket)		Datalogging and/or updating via USB
2x RS422 (RJ45 socket)		Fronius Solar Net, interface protocol
Datalogger and Webserver		Included

Technology



Arc Fault Circuit Interruption Integrated

The Fronius Arc Fault Circuit Interruption (AFCI) is the best of its kind in the industry. The technology makes each inverter NEC 2011 compliant and maintains some of the most civilized, integrated technology available today. Ensuring the utmost safety, AFCI shuts down the inverter in the event of an arc fault.

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**Flexible Design**

Two MPP trackers combined with a high system voltage and wide input voltage range guarantee maximum flexibility. Every DC input, and therefore every MPP tracker, is able to accommodate the entire nominal output of the inverter. The result: an inverter for every application. Thanks to a new MPP tracking algorithm, a single inverter can cope with any challenge – including different roof orientations, shading of one or two strings, or the use of residual modules.

**Free Integrated Wi-Fi**

Simple, user-friendly system monitoring is very important to Fronius. With the Fronius Datamanager 2.0, we are the first inverter manufacturer to offer a Wi-Fi interface in the inverter itself. The inverter is connected to the internet without additional cabling and grants you the perfect overview of how the PV system is operating.

**SnapInverter Hinge Mounting System**

The special feature in the design of our devices is that the connection compartment is separate from the power stage set compartment. They are installed separately. The connection area and all its cabling is fitted to the wall first. The power stage set compartment is fitted afterwards. The innovative SnapInverter mounting system makes installation and servicing extremely user-friendly. The inverter is simply placed in the wall bracket and then secured. It is not necessary to remove the entire inverter for servicing, just the power stage set compartment. All the cabling, settings and configurations remain in place.

**Field Serviceable for Lowest Cost of Ownership**

The foundation of the unique PC board replacement process is laid as we develop our inverters, as PC boards can only be replaced if the device has been designed accordingly. This enables our Fronius Service Providers to provide the fastest inverter servicing on the market.

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