



# FRONIUS IG

GRID-TIED INVERTERS FOR PHOTOVOLTAIC SYSTEMS



POWERING YOUR FUTURE



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# Welcome to Fronius International

**F**or over 65 years, Fronius has been developing power conversion technologies. A time dominated by persistent research, diligence and personal commitment. Today Fronius is a world market leader in high frequency welding technology and one of the leading photovoltaic inverter manufacturers. The company is considered an innovator in all its fields of activity.

Fronius is all about electric power - harnessing and exploiting it in the form of welding equipment, battery charging systems, and solar electronics.

An international high-tech enterprise with more than 1700



employees, Fronius International GmbH exports products to more than 80 countries and has sales subsidiaries in the USA, Brazil and throughout Europe.

Fronius is a technology leader with over 200,000 inverters installed worldwide and is supported by an international network of sales partners.

## Controlling Energy: FRONIUS IG

**F**ronius is one of the largest suppliers of grid-tied PV inverters in Europe. The FRONIUS IG inverter has gained broad market acceptance due to its advanced High Frequency technology which offers high efficiency, precision MPP-tracking, and active cooling, all of which results in superior energy production from photovoltaic systems.

- High Efficiency
- + High Reliability
- + HF Technology
- + MPPT-Efficiency
- + Active Cooling
- = More energy harvested from your solar power system!



All manufacturing, assembly and testing of the FRONIUS IG inverters occurs at Fronius' ISO 9001 factory. The result - superior quality control, high product availability, and quick response time.





## Light Weight

As a result of HF technology, the FRONIUS IG weighs in at 26 lbs, half the weight of the competition. The reduced weight saves your back and shipping dollars while it helps the environment by using fewer raw materials and reducing CO<sub>2</sub> emissions. Easier to ship, safer to install, and better for the environment too.

## Integrated DC/AC Disconnects

Each inverter comes with built-in DC and AC disconnects and in many cases eliminates the need for external disconnects reducing installation time and total system costs. With its lightweight and compact design, the FRONIUS IG can be easily lifted on or off the installation bracket. The standard knockouts and terminal strip saves time and expense when making electrical connections.



# FRONIUS IG Features



## Graphic Display and User Interface

Owning a PV system is great. Knowing exactly what it is doing is even better. A large, bright, easy to use LCD display comes standard with every FRONIUS IG inverter. You can view over 20 critical system parameters pertaining to the inverter and solar system operation. If a system fault has occurred, the display shows the reason for the problem, making it easy for the user or installer to troubleshoot and repair.

## Reliable-Rugged-Built to Last

FRONIUS IG inverters are built in an ISO 9001 facility. As a world leading manufacturer of HF welding equipment, Fronius builds products that can withstand the test of time in harsh environments with heavy use. That know-how is built into each and every FRONIUS IG inverter. Built to last by a company that has been around long enough to know.

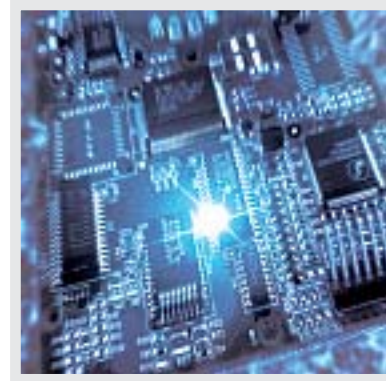


## ● High Frequency (HF) Technology

High frequency technology is extremely compact and yet capable of transforming considerable power. Using an innovative Phase-Shift process the FRONIUS IG minimizes switching losses and is able to generate ultra high conversion efficiencies of 95.2%!

## ● Maximum Power Point Tracking (MPPT) accuracy of 99.9%

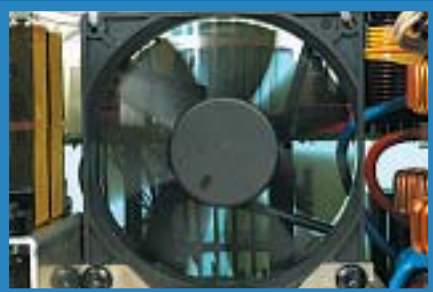
Regardless of which PV modules you use; monocrystalline, poly or thin film, the FRONIUS IG Module-Manager software locks onto the array maximum power point to optimize the energy output from your array.



# and Benefits

## ● Wide Input Voltage Range

A wide input voltage range (150-500 Volts) permits the use of modules of every power size and voltage. You can easily fine-tune your system with different wattage modules and string configurations. Accurate MPP tracking and high efficiency is maintained throughout the voltage and power range.



## ● Intelligent Thermal Management

For high reliability, long life and the ability to operate at full power over a wide range of temperatures, inverter components must be kept cool. Fronius, which perfected Active Cooling in HF welders, employs the same Active Cooling technology in its FRONIUS IG inverters. FRONIUS IG inverters operate reliably at full power, without de-rating, over a wider range of temperatures than competing inverters.

# Optional Features

## Plug and Play Digital Technology

Just like a Personal Computer, FRONIUS IG inverters come with 3 expansion slots that allow you to add features, such as external sensors and remote displays.



## FRONIUS IG DatCom

### Data Communication Features for your PV System

Remote data communications and data logging features can easily be added to transform your FRONIUS IG inverter into a sophisticated data acquisition system and weather monitoring station. All FRONIUS IG DatCom options and configurations can be included at the initial installation or easily added at any future time.

- **Fully expandable** – up to 100 inverters can be connected
- **Plug and Play** – components and sensors simply plug together using standard RS485, RS232 and USB cables
- **Modular design** – buy only what you need and add-on as required
- **Download Data** – using the Datalogger Box, access system data using a local or remote PC with a modem
- **Control and Monitor** - use FRONIUS IG.access to analyze, compare, or just admire your system performance
- **View** your FRONIUS IG performance from a PC
- **Export Data** – transfer system information to your PC using popular file formats such as MS Excel®
- **FRONIUS IG DatCom** includes the following Plug and Play components:
  - **Datalogger Box** – data storage and interface to PC and modem
  - **COM Card** – inverter interface and power supply
  - **Sensor Box** – monitoring interface with 6 sensor input channels
  - **Interface Box** – third party open protocol (e. g. Fat Spaniel)

For complete specifications and configurations please see the FRONIUS IG DatCom Specification Sheet



# Specifications

DC Input Data	FRONIUS IG 2000	FRONIUS IG 3000	FRONIUS IG 2500-LV
Recommended PV power	1500 – 2500 Wp	2500 – 3300 Wp	1800 – 3000 Wp
Max. DC input voltage	500 V	500 V	500 V
Operating DC voltage range	150 – 450 V	150 – 450 V	150 – 450 V
Max. usable DC input current	13.6 A	18 A	16.9 A
AC Output Data	FRONIUS IG 2000	FRONIUS IG 3000	FRONIUS IG 2500-LV
Maximum output power @40° C	2000 W	2700 W	2350 W
Nominal AC output voltage	240 V		208 V
Utility AC voltage range	212 – 264 V (240 V +10% / -12%)		183 – 229 V
Maximum AC current	8.35 A	11.25 A	11.25 A
Maximum utility back feed current	0.0 A	0.0 A	0.0 A
Operating frequency range	59.3 – 60.5 Hz (60 Hz nom)		
Total Harmonic Distortion THD	< 5%		
Power Factor (cos phi)	1		
General Data	FRONIUS IG 2000	FRONIUS IG 3000	FRONIUS IG 2500-LV
Max. efficiency	95.2%	95.2%	94.4%
Consumption in stand-by	< 0.15 W (night)		
Consumption during operation	7 W		
Enclosure	NEMA 3R		
Size (l x w x h)	18.5 x 16.5 x 8.8 inches (470 x 418 x 223 mm)		
Weight	26 lbs. (11.8 kg)		
Ambient temperature range	-5 to 122 °F (-20 to +50 °C)		
Cooling	controlled forced ventilaton		
Integrated AC and DC disconnects	standard UL approved DC & AC disconnects		
Protections			
Ground fault protection	Internal GFDI, in accordance with UL 1741		
DC reverse polarity protection	Internal diode		
Islanding protection	Internal, in accordance with UL 1741, IEEE 1547		
Over temperature	Output power derating		
Surge protection	Internal DC & AC protection, Tested to 6 kV		
Compliance			
Safety	UL 1741		
EMI	FCC Part 15; Class A & B		
Anti-Islanding protection	UL 1741, IEEE 1547		
Ground fault detector and interrupter	Compliant with NEC Art. 690 requirements, UL 1741		
Miscellaneous			
Maximum AC over current protection	Two-pole, 15 / 20 A circuit breaker		
AC wire sizing	Use maximum AWG 6 194°F (90 °C) copper wire		
DC wire sizing	Use maximum AWG 8 194°F (90 °C) copper wire		
AC disconnect	16 A		
DC disconnect	25 A		
Warranty	10 year Premium Warranty is Standard		

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