Fronius **IG Plus**

The next generation
grid-connected PV inverter.

Fronius

POWERING YOUR FUTURE

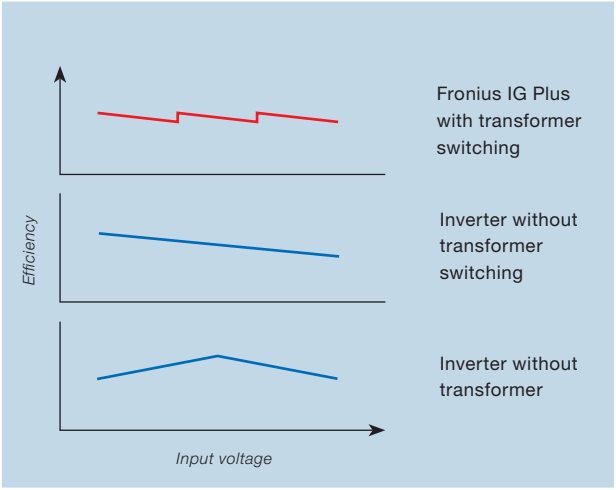
The first multi-purpose device.
Reliability and maximum earnings security.

An outstanding addition to the family: The next generation Fronius IG Plus inverter includes a number of significant enhancements to a very successful inverter to provide maximum earnings security, versatility and the highest reliability. New power stages expand the proven Fronius IG family (from 3.5 to 12 kW). Plus numerous improvements provide consistently higher earnings.

Maximum Earnings Security

Get maximum power out of every ray of light. This is achieved through a complex interaction of different factors:

3 efficiency peaks. More earnings for every system size: The automatic transformer switching function of the Fronius IG Plus makes certain of this. This enables not one, but three equal efficiency peaks. The result: Constant efficiency over a wide input voltage range. In comparison: The efficiency of inverters without transformer switching declines steadily with an increasing input voltage. Devices without a transformer only have one efficiency peak.



MIX™ concept. You will get the maximum power harvest out of partial load ranges, e.g. on cloudy days, through a clever combination of multiple power stages in each inverter. The power stages in the Fronius inverters divide up the work depending on the operating hours.

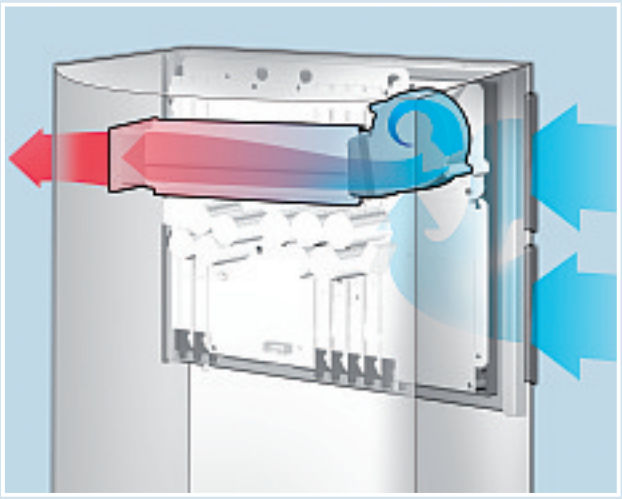
Module Manager. The Module Manager: ensures that the Fronius IG inverters remain at the maximum power point (MPP), with fast and exact MPP tracking to ensure that you obtain the most power out of each ray of sun light. This is especially important for thin layer modules whose MPP can be more difficult to track.

Market leader. With a 95.9% maximum efficiency, the Fronius IG Plus series achieves one of the highest values for HF devices.

Highest Reliability

The Fronius development team has put a lot of work into ensuring that failures don‘t occur. Because the smallest details can have the greatest repercussions.

Well thought out ventilation concept. Disruptive ambient factors such as dust or moisture remain on the outside. The reason: Cooling air is drawn-in on the back of the inverter and routed through a closed channel over the heat sink. This prevents contact with the circuit board. At the same time, the components are kept cool and the inverter operates with an absolute consistency.



Failsafe. You can rely on Fronius inverters. And should a power module happen to fail, the others take up the slack. As soon as the replacement part is delivered, it can be quickly and easily replaced by a service technician. You don‘t have to dismantle the entire inverter: The wiring box including all cabling and configurations remains on the wall.

Excellent Durability. The MIX™-concept increases the lifespan of the inverter. Several smaller power stages divide up the operating hours. The new ventilation concept improves on this – as cooler power stages work more efficiently and longer. And of course, only the highest quality components are used by Fronius for this new generation of inverters.

The first all-round device

Versatility as a basic principle: The Fronius IG Plus works well with all PV modules and is suitable for all system sizes.

Compatible with nearly all module configurations. The Fronius IG Plus works optimally with all module types. The Fronius IG Plus is especially well-suited for thin-layer modules because of its wide input voltage range, galvanic isolation, standard grounding option as well as its precise MPP tracking feature.

Grounding selectable on site. You decide on site, whether or not you want or need to ground the modules. Simply insert the fuse, activate the software – grounding is complete.

For indoor or outdoor installation. All Fronius IG Plus inverters have a robust, well-designed metal housing. UV-resistance and corrosion-protection enable them to be used both indoors or outdoors.

Integrated fused string combiner with fuse monitoring. The Fronius IG Plus includes a standard integrated fused string combiner which makes your installation easier and more cost effective. Up to 6 strings can be connected to the built-in fused string combiner. Built-in fuse monitoring notifies the user of a blown fuse on the easy-to-read LC-display providing clear and easy confirmation on the integrity of your fuses!

Universal product design. The functional principle is identical in the entire Fronius IG family. This means that if you are familiar with one device, you can also operate and service all other inverters.

Integrated DC disconnect. No external DC disconnect installation or cabling is necessary. The highest comfort and safety as per DIN-VDE 0100-712.

The new power plug system. The connection area and power modules are installed separately from each other. Very easy, very safe: The connection area is attached to the wall as normal. Then the power module is simply plugged in. The power plug connects both parts into one secure unit. When service is required, the connection area remains on the wall – all settings and configurations remain untouched.

Maximum Earnings Security

Highest Reliability

First All-Round Device

Fronius IG Plus 35 V /
Fronius IG Plus 50 V
Powerful and compact. The two single-phase devices with a nominal output of 3.5 and 4 kW for photovoltaic systems. e.g. for single-family homes

Fronius IG Plus 70 V /
Fronius IG Plus 100 V
The two-phase connection ensures a phase load unbalance of less than 4 kVA. Nominal output of 6.5 and 8 kW.

Fronius IG Plus 120 V /
Fronius IG Plus 150 V
Maximum power. Three phases in a single device for systems into the megawatt range. Available with nominal output of 10 kW and 12 kW.

Fronius **IG Plus** Overview

Naturally, all Fronius IG Plus devices have the CE mark and meet all required country-specific guidelines and standards. For more information and certificates as well as details regarding system analysis and control using the Fronius DATCOM system, please go to www.fronius.com.

INPUT DATA **Fronius IG Plus**	**35 V**	**50 V**	**70 V**	**100 V**	**120 V**	**150 V**
DC maximum power at cos φ=1	3710 W	4260 W	6880 W	8520 W	10590 W	12770 W
Max. input current ($I_{dc\ max}$)	16.1 A	18.5 A	29.9 A	37.0 A	46.0 A	55.5 A
Max. input voltage ($U_{dc\ max}$)			600 V			
MPP voltage range ($U_{mpp\ min}$ - $U_{mpp\ max}$)			230 - 500 V			

OUTPUT DATA						
AC nominal output ($P_{ac,r}$) at cos φ=1	3500 W	4000 W	6500 W	8000 W	10000 W	12000 W
Max. output power	3500 VA	4000 VA	6500 VA	8000 VA	10000 VA	12000 VA
Max. output current ($I_{ac\ max}$)	15.2 A	17.4 A	14.1 A (28.3 A)*	17.4 A (34.8 A)*	14.5 A	17.4 A
Max. efficiency	95.7 %	95.7 %	95.7 %	95.7 %	95.9 %	95.9 %
Euro. efficiency (η_{EU})	95.0 %	95.0 %	95.1 %	95.2 %	95.4 %	95.4 %
MPP adaptation efficiency			> 99.9 %			
Grid connection		1~NPE 230 V		2~NPE 400 V / 230 V (1~NPE 230 V)		3~NPE 400 V / 230 V
Frequency (f_r)			50 Hz / 60 Hz			
Harmonic distortion			< 3 %			
Power factor (cos $\varphi_{ac,r}$)			0.85 - 1 ind. / cap.			
Night consumption			< 1 W			

GENERAL DATA			
Dimensions (height x width x depth)	673 x 434 x 250 mm	968 x 434 x 250 mm	1263 x 434 x 250 mm
Weight	23.8 kg	36.9 kg	49.2 kg
Degree of protection		IP 54**	
Inverter concept		HF transformer	
Cooling		Regulated air cooling	
Installation		indoor and outdoor installation	
Ambient temperature range		From -20°C to +55°C	
Permitted humidity		0 % to 95 %	

SAFETY EQUIPMENT	
DC insulation measurement	Warning when R_{ISO} < 500 kOhm
Overload behavior	Operating point shift, power limiter
DC circuit breaker	integrated

* 1-phase (opt.)

** Please follow the guidelines in the operating instructions for properly installing the inverter.

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