



Fronius **IG Plus**

The next generation
grid-connected PV inverter





Maximum energy harvest – cloudy or clear

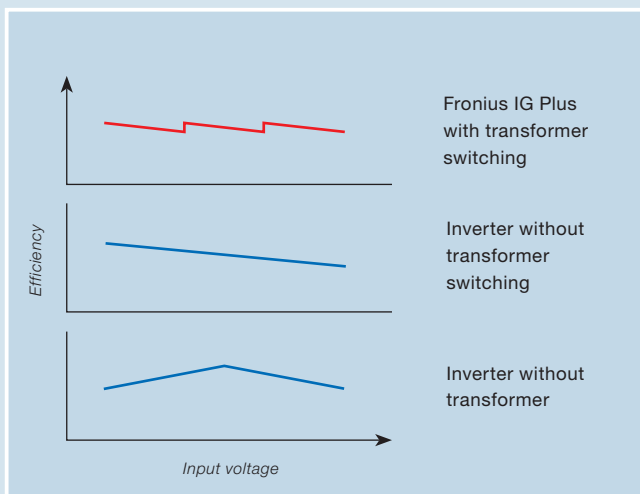
The first complete inverter solution.
Reliable. Proven. Smart.

An outstanding addition to the family: The next generation Fronius IG Plus inverter builds on a successful model with multiple enhancements, including maximum power harvest, a built-in six circuit string combiner, integrated, lockable DC Disconnect, significantly improved efficiency, and unbeatable reliability. New, larger power stages expand the proven Fronius IG family from 2 to 12 kW in a single inverter.

Maximum Earnings Security

Get the most power out of every ray of sunlight. This is achieved through a complex interaction of different factors:

Three efficiency peaks. Greater power harvest for every system size: The unique automatic transformer switching function of the Fronius IG Plus enables not one, but three equal efficiency peaks. The result: Consistently high efficiency over a wide input voltage range. In comparison: The efficiency of inverters without transformer switching declines steadily with an increasing input voltage.



MIX™ Concept. 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 Fronius inverters divide up the work depending on operating hours and only operate as many power stages as required to efficiently process available power from the PV array.

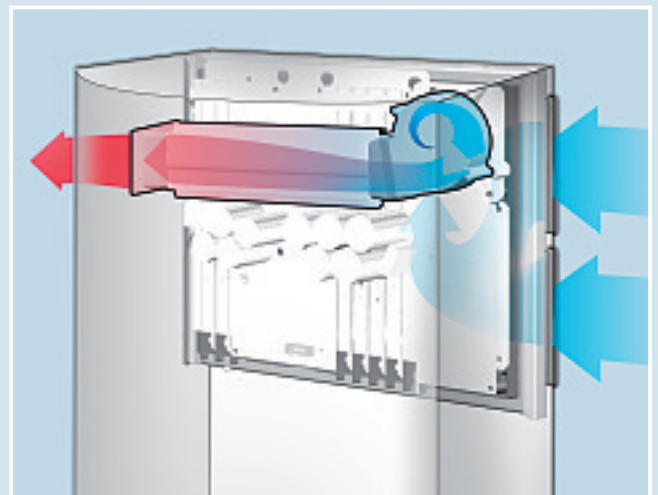
Module Manager™. The Module Manager™ keeps all Fronius IG Inverters at the maximum power point (MPP) with fast and exact MPP tracking, ensuring that you get the most power out of each ray of sunlight. This is especially important for amorphous modules whose MPP can be more challenging to track.

Market Leader. With a 96.2 % peak efficiency, the Fronius IG Plus inverter has the highest efficiency among high frequency inverters.

Highest Reliability

The Fronius development team has tested every detail of the design, ensuring that the Fronius IG Plus line of inverters will provide exceptional performance under all conditions.

Smart Ventilation Design. Disruptive ambient factors such as biological infestations, dust, moisture, or coastal salt air stay outside the new Fronius IG Plus Inverters away from the circuitry. How: Cool air is drawn in through a filter screen on the back of the inverter and routed through a closed channel over the heat sink. This prevents contact between outside air



and the circuit boards while cooling the inverter components ensuring the inverter operates consistently. All circuit boards are also dipped in Conformal coating to provide an added measure of protection.

Failsafe. You can rely on Fronius inverters. In the rare event that a power stage fails, the others will continue to operate. Once the replacement power stage is delivered, it can be quickly and easily replaced by a service technician, without having to dismantle the entire inverter. The wiring box, including all cabling, configurations and data (such as kWh production) remains on the wall, while your service technician removes two screws, exchanges the power stages, and within five minutes the inverter is repaired.

Longlasting Durability. The MIX™ concept increases the lifespan of the inverter. While several power stages divide up the operating hours, the new ventilation design keeps them cool, improving efficiency and lifespan. To ensure unsurpassed performance and long life, Fronius only uses the highest quality name brand components available.

The first universal inverter

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

Compatible with all module configurations. The Fronius IG Plus works optimally with all module types, including amorphous modules. The Fronius IG Plus works well with all module types because of its wide input voltage range, galvanic isolation, field programmable grounding option, and its precise MPP tracking feature.

Grounding selectable on site. Decide on site what type of grounding is required as the Fronius IG Plus is field programmable for either positive or negative module grounding.

Designed for indoor and outdoor installations. All Fronius IG Plus inverters have a robust, well-designed aluminum housing. UV-resistance and corrosion-protection enable them to be used either indoors or outdoors. Fronius is proud to be one of the only inverters tested and approved to operate at +131 °F (+55 °C).

Field programmable AC output voltage. The Fronius IG Plus inverter line from 3.0 to 11.4 kW is field programmable to 208, 240 or 277 volts (Fronius IG Plus 10.0-3 & 11.4-3 are available in 208 & 240 only, the 12.0-3 only available in 277 volts), eliminating the need to install different inverter models to accommodate three-phase installations.

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



Photo: KW-Solartechnik



Integrated DC disconnect. No external DC disconnect installation or cabling is necessary. The Fronius IG Plus comes complete with an approved, built-in, lockable and load breakable DC Disconnect.

The new power plug system. The connection area and power stages are installed separately from each other. Very easy, and extremely safe: The connection area is attached to the wall as normal. Then the power stage is simply plugged in. The power plug connects both parts into one secure unit. If service is required, the connection area remains on the wall, maintaining all settings and configurations.



Maximum Earnings Security



Highest Reliability



First Universal Inverter



**Fronius IG Plus V 3.0-1_{UNI}
and 3.8-1_{UNI}**

This single stage inverter is available in 3.0 and 3.8kW and is field programmable to 208, 240 or 277 volts. Best suited for residential and smaller commercial applications.



**Fronius IG Plus V 5.0-1_{UNI}
6.0-1_{UNI} and 7.5-1_{UNI}**

This two power stage inverter is available in 5.0, 6.0 and 7.5 kW and is field programmable to 208, 240 or 277 volts. Best suited for residential and smaller commercial applications.



**Fronius IG Plus V 10.0-1_{UNI}
11.4-1_{UNI}, 10.0-3_{Delta},
11.4-3_{Delta} and 12.0-3_{WYE277}**

This three power stage inverter is available in 10.0, 11.4 and 12.0 kW. Best suited for large residential and commercial applications.

INPUT DATA	Fronius IG Plus V	3.0-1 _{UNI}	3.8-1 _{UNI}	5.0-1 _{UNI}	6.0-1 _{UNI}	7.5-1 _{UNI}	10.0-1 _{UNI}	11.4-1 _{UNI}	10.0-3 _{Delta}	11.4-3 _{Delta}	12.0-3 _{WYE277}
Recommended PV-Power (kWp)		2.50 - 3.45	3.20 - 4.40	4.25 - 5.75	5.10 - 6.90	6.35 - 8.60	8.50 - 11.50	9.70 - 13.10	8.50 - 11.50	9.70 - 13.10	10.20 - 13.80
MPPT-voltage range		230 ... 500 V									
DC startup voltage		245 V									
Max. input voltage (at 1000 W/m ² 14 °F (-10 °C) in open circuit operation)		600 V									
Nominal input current		8.3 A	10.5 A	13.8 A	16.5 A	20.7 A	27.6 A	31.4 A	27.6 A	31.4 A	33.1 A
Max. usable input current		14.0 A	17.8 A	23.4 A	28.1 A	35.1 A	46.7 A	53.3 A	46.7 A	53.3 A	56.1 A
Admissible conductor size (DC)		No. 14 - 6 AWG									
Number of DC input terminals		6									
Max. current per DC input terminal		20 A; Bus bar available for higher input currents									

OUTPUT DATA	Fronius IG Plus V	3.0-1 UNI	3.8-1 UNI	5.0-1 UNI	6.0-1 UNI	7.5-1 UNI	10.0-1 UNI	11.4-1 UNI	10.0-3 Delta	11.4-3 Delta	12.0-3 WYE277
Nominal output power (P _{AC nom})		3000 W	3800 W	5000 W	6000 W	7500 W	9995 W	11400 W	9995 W	11400 W	12000 W
Max. continuous output power 104 °F (40 °C) 208 V / 240 V / 277 V		3000 W	3800 W	5000 W	6000 W	7500 W	9995 W	11400 W	9995 W	11400 W	12000 W
Nominal AC output voltage		208 V / 240 V / 277 V							208 V / 240 V		277 V
Operating AC voltage range (default)	208 V 240 V 277 V	183 - 229 V (-12 / +10 %) 211 - 264 V (-12 / +10 %) 244 - 305 V (-12 / +10 %)									
Max. continuous output current	208 V 240 V 277 V	14.4 A 12.5 A 10.8 A	18.3 A 15.8 A 13.7 A	24.0 A 20.8 A 18.1 A	28.8 A 25.0 A 21.7 A	36.1 A 31.3 A 27.1 A	48.1 A 41.6 A 36.1 A	54.8 A 47.5 A 41.2 A	27.7 A* 24.0 A* n.a	31.6 A* 27.4 A* n.a.	n.a. n.a. 14.4 A*
Number of phases		1							3		
Admissible conductor size (AC)		No. 14 - 4 AWG									
Max. continuous utility back feed current		0 A									
Nominal output frequency		60 Hz									
Operating frequency range		59.3 - 60.5 Hz									
Total harmonic distortion		< 3 %									
Power factor		1 (at nominal output power)									

GENERAL DATA		Fronius IG Plus V	3.0-1 _{UNI}	3.8-1 _{UNI}	5.0-1 _{UNI}	6.0-1 _{UNI}	7.5-1 _{UNI}	10.0-1 _{UNI}	11.4-1 _{UNI}	10.0-3 _{Delta}	11.4-3 _{Delta}	12.0-3 _{WYE277}
Max. efficiency			96.2 %									
CEC efficiency	208 V	95.0 %	95.0 %	95.5 %	95.5 %	95.0 %	95.0 %	95.0 %	95.0 % **	95.0 %	n.a.	
	240 V	95.5 %	95.5 %	95.5 %	96.0 %	95.5 %	95.5 %	95.5 %	96.0 % **	96.0 %	n.a.	
	277 V	96.0 %	96.0 %	96.0 %	96.0 %	96.0 %	96.0 %	96.0 %	n.a	n.a.	96.0 %	
Consumption in standby (night)			< 1.5 W									
Consumption during operation		8 W		14 W				20 W				
Cooling			Controlled forced ventilation, variable speed fan									
Enclosure type			NEMA 3R									
Unit dimensions (W x H x D)		17.1 x 26.5 x 9.9 in.		17.1 x 38.1 x 9.9 in.				17.1 x 49.7 x 9.9 in.				
Power stack weight		31 lbs. (14 kg)		57 lbs. (26 kg)				84 lbs. (38 kg)				
Wiring compartment weight		24 lbs. (11 kg)		24 lbs. (11 kg)				26 lbs. (12 kg)				
Admissible ambient operating temperature			-13 °F ... +131 °F (-25 °C ... +55 °C)									
Compliance		UL 1741-2010, IEEE 1547-2003, IEEE 1547.1, ANSI/IEEE C62.41, FCC Part 15 A & B, NEC Article 690, C22. 2 No. 107.1-01 (Sept. 2001), California Solar Initiative - Program Handbook - Appendix C: Inverter Integral 5 % Meter Performance Specification										

PROTECTION DEVICES	Fronius IG Plus V	3.0-1 _{UNI}	3.8-1 _{UNI}	5.0-1 _{UNI}	6.0-1 _{UNI}	7.5-1 _{UNI}	10.0-1 _{UNI}	11.4-1 _{UNI}	10.0-3 _{Delta}	11.4-3 _{Delta}	12.0-3 _{WYE277}
Ground fault protection		Internal GFDI (Ground Fault Detector/Interrupter); in accordance with UL 1741-2010 and NEC Art. 690									
DC reverse polarity protection		Internal diode									
Islanding protection		Internal; in accordance with UL 1741-2010, IEEE 1547-2003 and NEC									
Over temperature		Output power derating / active cooling									

* per Phase
** preliminary



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