



SHIFTING THE LIMITS

FRONIUS IG PLUS V STRING INVERTER

/ The all-rounder with maximum yield.



/ MIX™ concept



/ HF transformer switchover



/ Module Manager



/ PC board replacement concept



/ Mounting system



/ Ventilation concept

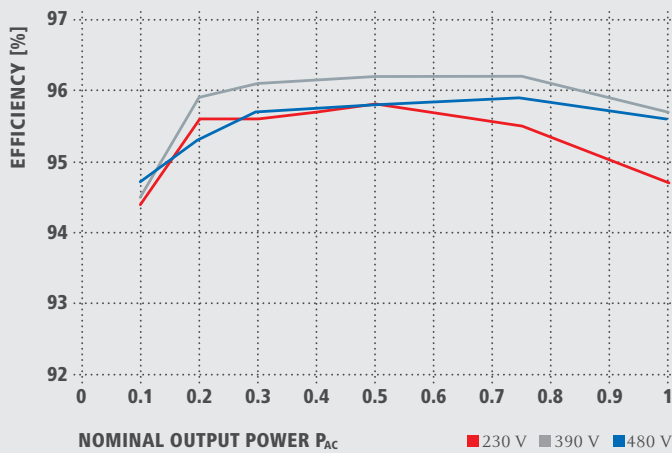


/ The Fronius IG Plus V generation of inverters represents an evolution of the proven Fronius IG product family. With power categories from 3 to 12 kW, there is an inverter suitable for every possible system size. The Fronius IG Plus V line achieves one of the highest efficiency values for transformer inverters, with a maximum efficiency of 95.9%.

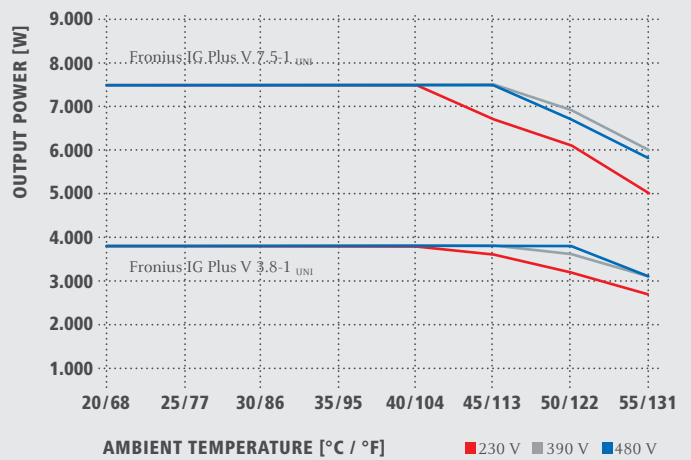
TECHNICAL DATA: FRONIUS IG PLUS V (3.0-1_{UNI}, 3.8-1_{UNI}, 5.0-1_{UNI}, 6.0-1_{UNI}, 7.5-1_{UNI})

INPUT DATA	3.0-1 _{UNI}	3.8-1 _{UNI}	5.0-1 _{UNI}	6.0-1 _{UNI}	7.5-1 _{UNI}
Recommended PV-power (kWp)	2.50 - 3.45	3.20 - 4.40	4.25 - 5.75	5.10 - 6.90	6.35 - 8.60
Max. usable DC input current	14.0 A	17.8 A	23.4 A	28.1 A	35.1 A
Min. MPPT voltage			230 V		
DC startup voltage			245 V		
Nominal input voltage			390 V		
Max. input voltage			600 V		
MPPT voltage range			230 ... 500 V		
Nominal input current	8.3 A	10.5 A	13.8 A	16.5 A	20.7 A
OUTPUT DATA	3.0-1 _{UNI}	3.8-1 _{UNI}	5.0-1 _{UNI}	6.0-1 _{UNI}	7.5-1 _{UNI}
Max. continuous output power @ 104°F (40°C)					
208 V	3000 W	3800 W	5000 W	6000 W	7500 W
240 V	3000 W	3800 W	5000 W	6000 W	7500 W
277 V	3000 W	3800 W	5000 W	6000 W	7500 W
Max. continuous output current					
208 V	14.4 A	18.3 A	24.0 A	28.8 A	36.1 A
240 V	12.5 A	15.8 A	20.8 A	25.0 A	31.3 A
277 V	10.8 A	13.7 A	18.1 A	21.7 A	27.1 A
Nominal AC output voltage	208 / 240 / 277 V (-12/+10%)				
Min. operating AC voltage					
208 V	183 V				
240 V	211 V				
277 V	244 V				
Max. operating AC voltage					
208 V	229 V				
240 V	264 V				
277 V	305 V				
Nominal output frequency	60 Hz				
Operating frequency range	59.3 - 60.5 Hz				
Total harmonic distortion	< 3 %				
Power factor	1 (at nominal output power)				
Consumption in standby (night)	< 1.5 W				
Number of phases	1				
Admissible conductor size	No. 14 - 4 AWG				
Max. continuous utility back feed current	0 A				

FRONIUS IG PLUS V 7.5-1_{UNI} EFFICIENCY CURVE



FRONIUS IG PLUS V TEMPERATURE DERATING



TECHNICAL 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})

GENERAL DATA	3.0-1 _{UNI}	3.8-1 _{UNI}	5.0-1 _{UNI}	6.0-1 _{UNI}	7.5-1 _{UNI}
Unit dimensions (W x H x D)	17.1 x 26.5 x 9.9 inch (434 x 673 x 250 mm)		17.1 x 38.1 x 9.9 inch (434 x 968 x 250 mm)		
Weight	55 lbs. (25 kg)		81 lbs. (37 kg)		
Protection class	1				
Enclosure type	Nema 3R				
Topology	HF transformer (galvanic separation)				
Cooling	Controlled forced ventilation, variable speed fan				
Mounting	Indoor & outdoor				
Ambient operating temperature	- 13°F ... 131°F (-25°C ... 55°C)				
Rel. humidity	0-95% (non-condensing)				
DC connection type	6x Screw Terminals; No. 14 - 6 AWG; 20 Amps maximum per DC input terminal; optional bus bar available for higher input currents				
AC connection type	Screw terminals; No. 14 - 4 AWG				
GND connection type	3x Screw terminals; No. 14 - 4 AWG				
Compliances	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 (September 2001), California Solar Initiative - Program Handbook - Appendix C: Inverter Integral; 5 % Meter Performance Specification				

EFFICIENCY	3.0-1 _{UNI}	3.8-1 _{UNI}	5.0-1 _{UNI}	6.0-1 _{UNI}	7.5-1 _{UNI}
Max. efficiency	96.2%				
CEC efficiency (η _{CEC})					
208 V	95.0%	95.0%	95.5%	95.5%	95.0%
240 V	95.5%	95.5%	95.5%	96.0%	95.5%
277 V	96.0%	96.0%	96.0%	96.0%	96.0%
η at 10 % P _{ac} *	91.9 / 92.2 / 91.9	92.7 / 93.3 / 93.1	93.2 / 93.8 / 93.4	93.9 / 94.6 / 93.9	94.4 / 94.5 / 94.0
η at 20 % P _{ac} *	94.5 / 95.1 / 94.6	95.0 / 95.3 / 94.6	95.3 / 95.2 / 94.5	95.5 / 95.5 / 95.0	95.6 / 95.9 / 95.3
η at 30 % P _{ac} *	95.3 / 95.4 / 94.6	95.7 / 95.7 / 95.1	95.7 / 95.8 / 95.4	95.7 / 96.1 / 95.7	95.6 / 96.1 / 95.7
η at 50 % P _{ac} *	95.9 / 96.1 / 95.6	95.9 / 96.3 / 95.8	95.8 / 96.1 / 95.3	95.9 / 96.1 / 95.6	95.8 / 96.2 / 95.8
η at 75 % P _{ac} *	95.8 / 96.3 / 95.9	95.6 / 96.2 / 95.9	95.8 / 96.3 / 95.9	95.8 / 96.3 / 95.9	95.5 / 96.2 / 95.9
η at 100 % P _{ac} *	95.5 / 96.2 / 95.9	94.9 / 95.8 / 95.7	95.7 / 96.2 / 95.9	95.3 / 96.1 / 95.9	94.7 / 95.7 / 95.6
MPPT Efficiency	> 99.9%				

*at U_{mpp min}/ U_{dc nom}/ U_{mpp max}

PROTECTION DEVICES	3.0-1 _{UNI}	3.8-1 _{UNI}	5.0-1 _{UNI}	6.0-1 _{UNI}	7.5-1 _{UNI}
DC reverse polarity protection	Internal diode				
Over temperature	Output power derating / active cooling				
Islanding protection	Internal; in accordance with UL 1741-2010, IEEE 1547-2003 and NEC				
Ground fault protection	Internal GFDI (Ground Fault Detector/Interruptor); in accordance with UL 1741-2010 and NEC Art. 690				
DC disconnect	Integrated				

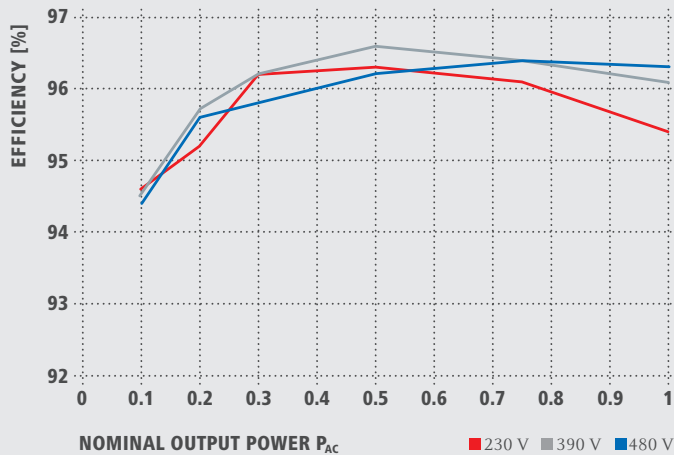
INTERFACES	3.0-1 _{UNI}	3.8-1 _{UNI}	5.0-1 _{UNI}	6.0-1 _{UNI}	7.5-1 _{UNI}
2x RJ45 sockets (RS485)	Optional				

TECHNICAL DATA: FRONIUS IG PLUS V (10.0-1 UNI' 11.4-1 UNI' 10.0-3 DELTA' 11.4-3 DELTA' 12.0-3 WYE277')

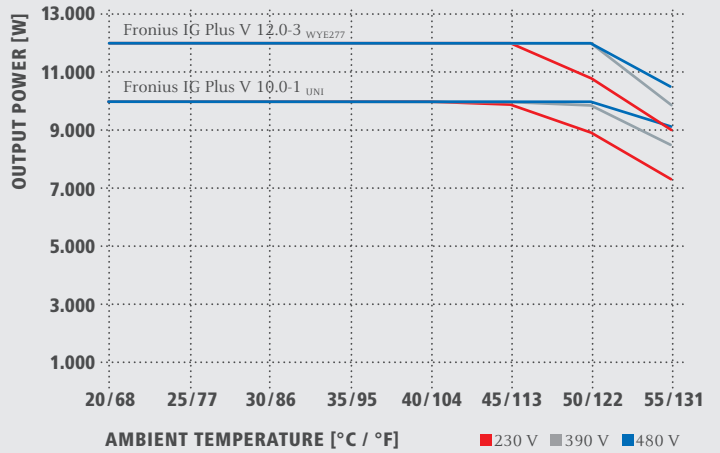
INPUT DATA	10.0-1 <small>UNI</small>	11.4-1 <small>UNI</small>	10.0-3 <small>DELTA</small>	11.4-3 <small>DELTA</small>	12.0-3 <small>WYE277</small>
Recommended PV-power (kWp)	8.50 - 11.50	9.70 - 13.10	8.50 - 11.50	9.70 - 13.10	10.20 - 13.80
Max. usable DC input current	46.7 A	53.3 A	46.7 A	53.3 A	56.1 A
Min. MPPT voltage			230 V		
DC startup voltage			245 V		
Nominal input voltage			390 V		
Max. input voltage			600 V		
MPPT voltage range			230 ... 500 V		
Nominal input current	27.6 A	31.4 A	27.6 A	31.4 A	33.1 A
OUTPUT DATA	10.0-1 <small>UNI</small>	11.4-1 <small>UNI</small>	10.0-3 <small>DELTA</small>	11.4-3 <small>DELTA</small>	12.0-3 <small>WYE277</small>
Max. continuous output power @ 104°F (40°C)					
208 V	9995 W	11400 W	9995 W	11400 W	n. a.
240 V	9995 W	11400 W	9995 W	11400 W	n. a.
277 V	9995 W	11400 W	n. a.	n. a.	12000 W
Max. continuous output current					
208 V	48.1 A	54.8 A	27.7 A*	31.6 A*	n. a.
240 V	41.6 A	47.5 A	24.0 A*	27.4 A*	n. a.
277 V	36.1 A	41.2 A	n. a.	n. a.	14.4 A*
Nominal AC output voltage					
	208 / 240 / 277 V (-12/+10%)		208 / 240 V (-12/+10%)		277 V (-12/+10%)
Min. operating AC voltage					
208 V			183 V		
240 V			211 V		
277 V			244 V		
Max. operating AC voltage					
208 V			229 V		
240 V			264 V		
277 V			305 V		
Nominal output frequency					
			60 Hz		
Operating frequency range					
			59.3 - 60.5 Hz		
Total harmonic distortion					
			< 3 %		
Power factor					
			1 (at nominal output power)		
Consumption in standby (night)					
			< 1.5 W		
Number of phases					
	1		3		
Admissible conductor size					
			No. 14 - 4 AWG		
Max. continuous utility back feed current					
			0 A		
GENERAL DATA	10.0-1 <small>UNI</small>	11.4-1 <small>UNI</small>	10.0-3 <small>DELTA</small>	11.4-3 <small>DELTA</small>	12.0-3 <small>WYE277</small>
Unit Dimensions (W x H x D)	17.1 x 49.7 x 9.6 inch (434 x 1263 x 250 mm)				
Weight	110 lbs. (50 kg)				
Protection class	1				
Enclosure type	Nema 3R				
Topology	HF-Transformer (galvanic separation)				
Cooling	Controlled forced ventilation, variable speed fan				
Mounting	Indoor & outdoor				
Ambient operating temperature	- 13°F ... 131°F (-25°C ... 55°C)				
Rel. humidity	0-95% (non-condensing)				
DC connection type	6x Screw terminals; No. 14 - 6 AWG; 20 amps maximum per DC input terminal; optional bus bar available for higher input currents				
AC connection type	Screw terminals; No. 14 - 4 AWG				
GND connection type	3x Screw terminals; No. 14 - 4 AWG				
Compliances	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 (September 2001), California Solar Initiative - Program Handbook - Appendix C: Inverter Integral; 5 % Meter Performance Specification				

*per phase

FRONIUS IG PLUS V 12.0-3 WYE277 EFFICIENCY CURVE



FRONIUS IG PLUS V TEMPERATURE DERATING



TECHNICAL DATA: FRONIUS IG PLUS V (10.0-1 UNI, 11.4-1 UNI, 10.0-3 DELTA, 11.4-3 DELTA, 12.0-3 WYE277)

EFFICIENCY	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 (η_{CEC})					
208 V	95.0%	95.0%	95.5%	95.0%	n. a.
240 V	95.5%	95.5%	95.5%	96.0%	n. a.
277 V	96.0%	96.0%	n. a.	n. a.	96.0%
η at 10 % P_{Ac}^*	94.2 / 93.8 / 93.2	94.6 / 94.3 / 93.6	94.1 / 94.3 / 93.3	94.7 / 94.5 / 94.0	92.6 / 92.5 / 94.4
η at 20 % P_{Ac}^*	95.2 / 95.6 / 95.1	95.2 / 95.7 / 95.4	94.7 / 95.4 / 95.0	95.4 / 95.8 / 95.4	95.2 / 95.7 / 95.6
η at 30 % P_{Ac}^*	95.6 / 95.8 / 95.2	95.6 / 95.9 / 95.5	95.3 / 95.7 / 95.1	95.7 / 96.0 / 95.5	96.2 / 96.2 / 95.8
η at 50 % P_{Ac}^*	95.7 / 96.0 / 95.5	95.7 / 96.1 / 95.7	95.3 / 96.0 / 95.4	95.8 / 96.3 / 95.8	96.3 / 96.6 / 96.2
η at 75 % P_{Ac}^*	95.5 / 96.1 / 95.8	95.3 / 96.0 / 95.8	95.0 / 95.8 / 95.4	95.5 / 96.2 / 95.9	96.1 / 96.4 / 96.4
η at 100 % P_{Ac}^*	94.9 / 95.9 / 95.7	94.5 / 95.6 / 95.5	94.1 / 95.2 / 95.1	94.7 / 95.7 / 95.6	95.4 / 96.1 / 96.3
MPPT efficiency	> 99.9 %				

*at $U_{mpp\ min}$ / $U_{dc\ nom}$ / $U_{mpp\ max}$

PROTECTION DEVICES	10.0-1 UNI	11.4-1 UNI	10.0-3 DELTA	11.4-3 DELTA	12.0-3 WYE277
DC reverse polarity protection	Internal diode				
Over temperature	Output power derating / active cooling				
Islanding protection	Internal; in accordance with UL 1741-2010, IEEE 1547-2003 and NEC				
Ground fault protection	internal GFDI (Ground Fault Detector/Interruptor); in accordance with UL 1741-2010 and NEC Art. 690				
DC disconnect	integrated				
INTERFACES	10.0-1 UNI	11.4-1 UNI	10.0-3 DELTA	11.4-3 DELTA	12.0-3 WYE277
2x RJ45 sockets (RS485)	optional				

/ Battery Charging Systems / Welding Technology / Solar Electronics

WE HAVE THREE DIVISIONS AND ONE PASSION: SHIFTING THE LIMITS.

/ Whether Battery Charging Systems, Welding Technology or Solar Electronics - our goal is clearly defined: to be the technology and quality leader. With more than 3,000 employees worldwide, we shift the limits of what's possible - our 737 active patents are testimony to this. While others progress step by step, we innovate in leaps and bounds. Further information about all Fronius products and our global sales partners and representatives can be found at www.fronius.com.



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