

# FRONIUS IG PLUS TRANSFORMER INVERTER

/ The allrounder with maximum yield.



/ MIX™ concept

/ HF transformer  
switchover

/ Module Manager

/ PC board replace-  
ment concept

/ Mounting system



/ Ventilation concept



/ The Fronius IG Plus generation of inverters represents an evolution of the proven Fronius IG product family. Power categories from 2.6 to 12 kW promise suitability for every possible system size. With a maximum efficiency of 95.9%, the Fronius IG Plus range achieves one of the highest values for transformer inverters.

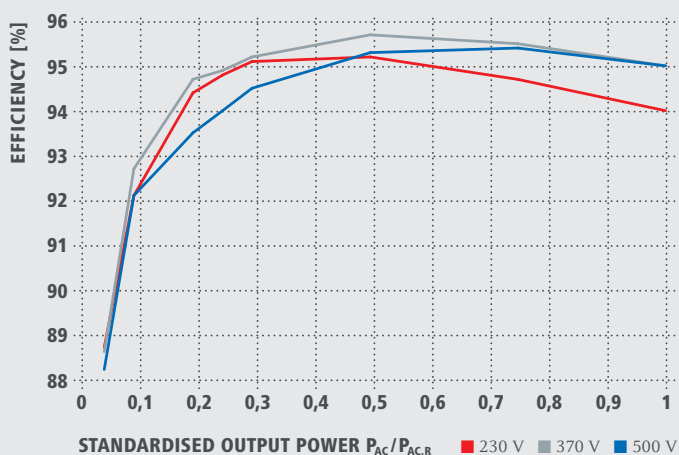
## TECHNICAL DATA: FRONIUS IG PLUS (25 V-1, 30 V-1, 35 V-1, 50 V-1)

INPUT DATA	25 V-1 <sup>1)</sup>	30 V-1	35 V-1	50 V-1
DC maximum power at $\cos \varphi = 1$	2,740 W	3,170 W	3,710 W	4,260 W
Max. input current ( $I_{dc \max}$ )	11.9 A	13.8 A	16.1 A	18.5 A
Min. input voltage ( $U_{dc \min}$ )			230 V	
Feed-in start voltage ( $U_{dc \text{ start}}$ )			260 V	
Nominal input voltage ( $U_{dc, r}$ )			370 V	
Max. input voltage ( $U_{dc \max}$ )			600 V	
MPP voltage range ( $U_{mpp \min} - U_{mpp \max}$ )			230 – 500 V	
Number of DC inputs			6	
OUTPUT DATA	25 V-1 <sup>1)</sup>	30 V-1	35 V-1	50 V-1
AC nominal output ( $P_{ac, r}$ )	2,600 W	3,000 W	3,500 W	4,000 W
Max. output power	2,600 VA	3,000 VA	3,500 VA	4,000 VA
Max. output current ( $I_{ac \max}$ )	11.3 A	13.0 A	15.2 A	17.4 A
Grid connection ( $U_{ac, r}$ )			1-NPE 230 V	
Min. output voltage ( $U_{ac \min}$ )			180 V	
Max. output voltage ( $U_{ac \max}$ )			270 V	
Frequency ( $f_r$ )			50 Hz / 60 Hz	
Frequency range ( $f_{\min} - f_{\max}$ )			46 – 65 Hz	
Distortion factor			< 3 %	
Power factor ( $\cos \varphi_{ac, r}$ )			0.85 – 1 ind. / cap.	
GENERAL DATA	25 V-1 <sup>1)</sup>	30 V-1	35 V-1	50 V-1
Dimensions (height x width x depth)			673 x 434 x 250 mm	
Weight			23.8 kg	
Degree of protection			IP 54 <sup>2)</sup>	
Protection class			1	
Overvoltage category (DC / AC)			2 / 3	
Night-time consumption CL			< 1 W	
Inverter concept			HF transformer	
Cooling			Regulated air cooling	
Installation			Indoor and outdoor installation	
Ambient temperature range			from -20°C – +55°C	
Permitted humidity			0% – 95%	
DC connection technology			Screw terminal connection 1.5 mm <sup>2</sup> – 16 mm <sup>2</sup>	
AC connection technology			Screw terminal connection 2.5 mm <sup>2</sup> – 35 mm <sup>2</sup>	
Certificates and compliance with standards			DIN V VDE V 0126-1-1, ÖVE / ÖNORM E 8001-4-712, UTE C15-712-1, EN 50438, G83, G59, C 10 / 11, CER 06-190, Guida per le connessioni alla rete elettrica di ENEL Distribuzione, AS 4777-1, AS 4777-2, AS 4777-3	

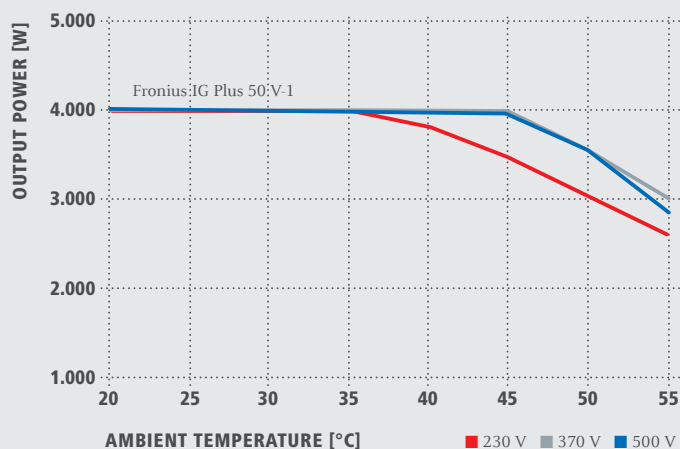
<sup>1)</sup> Fronius IG Plus 25 V-1 devices may not be used in Italy.

<sup>2)</sup> Please refer to the information in the operating instructions regarding correct installation of the inverter.

## FRONIUS IG PLUS 50 V-1 EFFICIENCY CURVE



## FRONIUS IG PLUS V TEMPERATURE DERATING



## TECHNICAL DATA: FRONIUS IG PLUS (25 V-1, 30 V-1, 35 V-1, 50 V-1)

EFFICIENCY	25 V-1 <sup>1)</sup>	30 V-1	35 V-1	50 V-1
Max. efficiency	95.7 %	95.7 %	95.7 %	95.7 %
European efficiency ( $\eta_{EU}$ )	94.6 %	94.8 %	95.0 %	95.0 %
$\eta$ at 5% $P_{ac,r}$ <sup>2)</sup>	87.5 / 87.3 / 86.8 %	87.9 / 87.6 / 87.2 %	88.2 / 88.1 / 87.4 %	88.7 / 88.6 / 88.2 %
$\eta$ at 10% $P_{ac,r}$ <sup>2)</sup>	89.7 / 89.8 / 89.4 %	90.4 / 90.8 / 90.2 %	91.6 / 92.3 / 91.5 %	92.1 / 92.7 / 92.1 %
$\eta$ at 20% $P_{ac,r}$ <sup>2)</sup>	93.0 / 93.6 / 92.8 %	93.6 / 94.2 / 93.2 %	94.1 / 94.6 / 93.4 %	94.4 / 94.7 / 93.5 %
$\eta$ at 25% $P_{ac,r}$ <sup>2)</sup>	93.8 / 94.3 / 93.3 %	94.3 / 94.6 / 93.5 %	94.6 / 94.8 / 93.7 %	94.8 / 94.9 / 94.0 %
$\eta$ at 30% $P_{ac,r}$ <sup>2)</sup>	94.4 / 94.8 / 93.6 %	94.7 / 94.9 / 93.8 %	94.9 / 95.0 / 94.1 %	95.1 / 95.2 / 94.5 %
$\eta$ at 50% $P_{ac,r}$ <sup>2)</sup>	95.2 / 95.4 / 94.7 %	95.2 / 95.5 / 94.9 %	95.3 / 95.7 / 95.3 %	95.2 / 95.7 / 95.3 %
$\eta$ at 75% $P_{ac,r}$ <sup>2)</sup>	95.2 / 95.7 / 95.3 %	95.1 / 95.7 / 95.4 %	94.9 / 95.6 / 95.4 %	94.7 / 95.5 / 95.4 %
$\eta$ at 100% $P_{ac,r}$ <sup>2)</sup>	94.9 / 95.6 / 95.4 %	94.7 / 95.5 / 95.4 %	94.4 / 95.2 / 95.1 %	94.0 / 95.0 / 95.0 %
MPP adaptation efficiency	> 99.9 %			
PROTECTIVE EQUIPMENT	25 V-1 <sup>1)</sup>	30 V-1	35 V-1	50 V-1
DC insulation measurement	Warning/shutdown (depending on country setup) at $R_{ISO} < 500 \text{ k}\Omega$			
Overload behaviour	Operating point shift, power limitation			
DC circuit breaker	Integrated			

<sup>1)</sup> Fronius IG Plus 25 V-1 devices may not be used in Italy.

<sup>2)</sup> and at  $U_{mpp \text{ min}} / U_{dc,r} / U_{mpp \text{ max}}$

## TECHNICAL DATA: FRONIUS IG PLUS (70 V-2, 100 V-2, 100 V-3, 120 V-3, 150 V-3)

INPUT DATA	70 V-2	100 V-2	100 V-3 <sup>1)</sup>	120 V-3	150 V-3
DC maximum power at $\cos \varphi = 1$	6,880 W	8,520 W	8,430 W	10,590 W	12,770 W
Max. input current ( $I_{dc,max}$ )	29.9 A	37.0 A	36.7 A	46.0 A	55.5 A
Min. input voltage ( $U_{dc,min}$ )			230 V		
Feed-in start voltage ( $U_{dc,start}$ )			260 V		
Nominal input voltage ( $U_{dc,r}$ )			370 V		
Max. input voltage ( $U_{dc,max}$ )			600 V		
MPP voltage range ( $U_{mpp,min} - U_{mpp,max}$ )			230 – 500 V		
Number of DC inputs			6		

OUTPUT DATA	70 V-2	100 V-2	100 V-3 <sup>1)</sup>	120 V-3	150 V-3
AC nominal output ( $P_{ac,r}$ )	6,500 W	8,000 W	8,000 W	10,000 W	12,000 W
Max. output power	6,500 VA	8,000 VA	8,000 VA	10,000 VA	12,000 VA
Max. output current ( $I_{ac,max}$ )	14.1 A (28.3 A) <sup>2)</sup>	17.4 A (34.8 A) <sup>2)</sup>	11.6 A	14.5 A	17.4 A
Grid connection ( $U_{ac,r}$ )	2-NPE 400 V / 230 V (1-NPE 230 V) <sup>2)</sup>		3-NPE 400 V / 230 V		
Min. output voltage ( $U_{ac,min}$ )			180 V		
Max. output voltage ( $U_{ac,max}$ )			270 V		
Frequency ( $f_r$ )			50 Hz / 60 Hz		
Frequency range ( $f_{min} - f_{max}$ )			46 – 65 Hz		
Distortion factor			< 3 %		
Power factor ( $\cos \varphi_{ac,r}$ )			0.85 – 1 ind. / cap.		

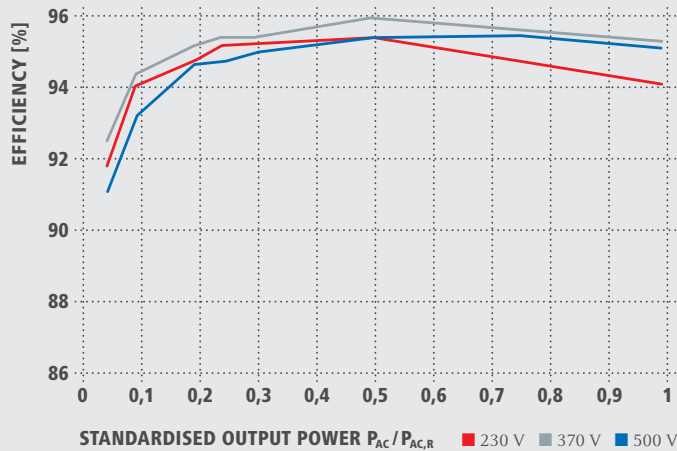
GENERAL DATA	70 V-2	100 V-2	100 V-3 <sup>1)</sup>	120 V-3	150 V-3
Dimensions (height x width x depth)	968 x 434 x 250 mm		1.263 x 434 x 250 mm		
Weight	36.9 kg		49.2 kg		
Degree of protection			IP 54 <sup>3)</sup>		
Protection class			1		
Overvoltage category (DC / AC)			2 / 3		
Night-time consumption			< 1 W		
Inverter concept			HF transformer		
Cooling			Regulated air cooling		
Installation			Indoor and outdoor installation		
Ambient temperature range			from –20°C – +55°C		
Permitted humidity			0% – 95%		
DC connection technology			Screw terminal connection 1.5 mm <sup>2</sup> – 16 mm <sup>2</sup>		
AC connection technology			Screw terminal connection 2.5 mm <sup>2</sup> – 35 mm <sup>2</sup>		
Certificates and compliance with standards	DIN V VDE V 0126-1-1, ÖVE / ÖNORM E 8001-4-712, UTE C15-712-1, EN 50438, G83, G59, C 10 / 11, CER 06-190, Guida per le connessioni alla rete elettrica di ENEL Distribuzione, AS 4777-1, AS 4777-2, AS 4777-3				

<sup>1)</sup> Fronius IG Plus 100 V-3 devices may only be used in Europe (except Italy) and Australia.

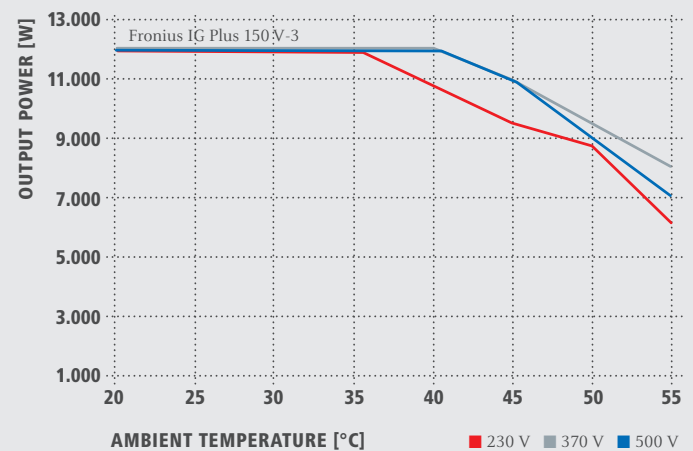
<sup>2)</sup> Single-phase (opt.)

<sup>3)</sup> Please refer to the information in the operating instructions regarding correct installation of the inverter.

## FRONIUS IG PLUS 150 V-3 EFFICIENCY CURVE



## FRONIUS IG PLUS V TEMPERATURE DERATING



## TECHNICAL DATA: FRONIUS IG PLUS (70 V-2, 100 V-2, 100 V-3, 120 V-3, 150 V-3)

EFFICIENCY	70 V-2	100 V-2	100 V-3 <sup>1)</sup>	120 V-3	150 V-3
Max. efficiency	95.7 %	95.7 %	95.9 %	95.9 %	95.9 %
European efficiency ( $\eta_{EU}$ )	95.1 %	95.2 %	95.3 %	95.4 %	95.4 %
$\eta$ at 5% $P_{AC,r}$ <sup>2)</sup>	90.4 / 91.1 / 90.3 %	90.9 / 91.4 / 90.5 %	91.7 / 91.9 / 90.3 %	91.5 / 92.2 / 90.7 %	91.8 / 92.5 / 91.1 %
$\eta$ at 10% $P_{AC,r}$ <sup>2)</sup>	93.0 / 93.2 / 92.0 %	93.6 / 93.7 / 92.5 %	93.1 / 93.1 / 92.0 %	93.4 / 93.7 / 92.6 %	94.0 / 94.3 / 93.2 %
$\eta$ at 20% $P_{AC,r}$ <sup>2)</sup>	94.7 / 94.7 / 94.0 %	94.7 / 95.1 / 94.4 %	94.3 / 94.9 / 94.2 %	94.6 / 95.2 / 94.5 %	94.7 / 95.1 / 94.6 %
$\eta$ at 25% $P_{AC,r}$ <sup>2)</sup>	94.9 / 95.1 / 94.4 %	94.9 / 95.3 / 94.8 %	94.6 / 95.2 / 94.5 %	94.7 / 95.3 / 94.7 %	95.1 / 95.3 / 94.7 %
$\eta$ at 30% $P_{AC,r}$ <sup>2)</sup>	95.0 / 95.3 / 94.8 %	94.9 / 95.4 / 95.0 %	94.7 / 95.2 / 94.5 %	95.0 / 95.4 / 94.7 %	95.1 / 95.3 / 94.9 %
$\eta$ at 50% $P_{AC,r}$ <sup>2)</sup>	95.3 / 95.5 / 94.9 %	95.2 / 95.7 / 95.2 %	95.3 / 95.8 / 95.0 %	95.3 / 95.9 / 95.1 %	95.3 / 95.9 / 95.3 %
$\eta$ at 75% $P_{AC,r}$ <sup>2)</sup>	95.0 / 95.7 / 95.3 %	94.7 / 95.5 / 95.3 %	95.3 / 95.9 / 95.3 %	95.0 / 95.5 / 95.4 %	94.7 / 95.6 / 95.4 %
$\eta$ at 100% $P_{AC,r}$ <sup>2)</sup>	94.5 / 95.4 / 95.2 %	94.0 / 95.1 / 95.0 %	94.9 / 95.7 / 95.4 %	94.6 / 95.5 / 95.3 %	94.0 / 95.2 / 95.1 %
MPP adaptation efficiency	> 99.9 %				

PROTECTIVE EQUIPMENT	70 V-2	100 V-2	100 V-3 <sup>1)</sup>	120 V-3	150 V-3
DC insulation measurement	Warning/shutdown (depending on country setup) at $R_{ISO} < 500 \text{ k}\Omega$				
Overload behaviour	Operating point shift, power limitation				
DC circuit breaker	Integrated				

<sup>1)</sup> Fronius IG Plus 100 V-3 devices may only be used in Europe (except Italy) and Australia.

<sup>2)</sup> and at  $U_{mpp \text{ min}} / U_{dc,r} / U_{mpp \text{ max}}$

/ Battery Charging Systems / Welding Technology / Solar Electronics

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