

FRONIUS IG PLUS TRANSFORMER INVERTER

/ The allrounder with maximum yield.



/ Fronius
MIX™ concept



/ HF transformer
switchover



/ Fronius 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, 60 V-1)

INPUT DATA	25 V-1	30 V-1	35 V-1	50 V-1	60 V-1
DC maximum power at $\cos \varphi = 1$	2,740 W	3,170 W	3,710 W	4,260 W	6,320 W
Max. input current ($I_{dc \max}$)	11.9 A	13.8 A	16.1 A	18.5 A	27.5 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	30 V-1	35 V-1	50 V-1	60 V-1
AC nominal output ($P_{ac,r}$)	2,600 W	3,000 W	3,500 W	4,000 W	6,000 W
Max. output power	2,600 VA	3,000 VA	3,500 VA	4,000 VA	6,000 VA
Max. output current ($I_{ac \max}$)	11.3 A	13.0 A	15.2 A	17.4 A	26.1 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_i)	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.				

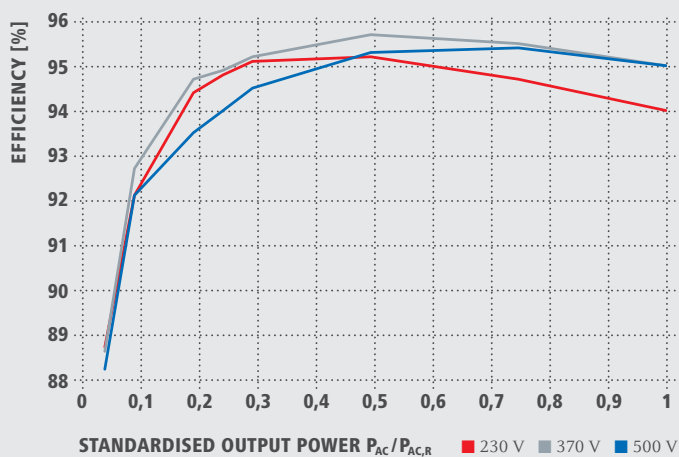
GENERAL DATA	25 V-1	30 V-1	35 V-1	50 V-1	60 V-1
Dimensions (height x width x depth)	673 x 434 x 250 mm				968 x 434 x 250 mm
Weight	23.8 kg				36.9 kg
Degree of protection	IP 44 ¹⁾				
Protection class	1				
Overvoltage category (DC / AC)	2 / 3				
Night-time consumption ^{CL}	< 1 W				
Inverter concept	HF transformer				
Cooling	Regulated air cooling				
Installation	Indoor and outdoor installation				
Ambient temperature range	from –20°C to +55°C				
Permitted humidity	0 % to 95 %				
DC connection technology	Screw terminal connection 1.5 mm ² – 16 mm ²				
AC connection technology	Screw terminal connection 2.5 mm ² – 35 mm ²				
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, CEI 0-21, AS 4777-1, AS 4777-2, AS 4777-3, VDE AR N 4105, Generating systems on the medium-voltage network (BDEW)				

Fronius IG Plus 25 V-1 devices do not comply with the German medium-voltage directive.

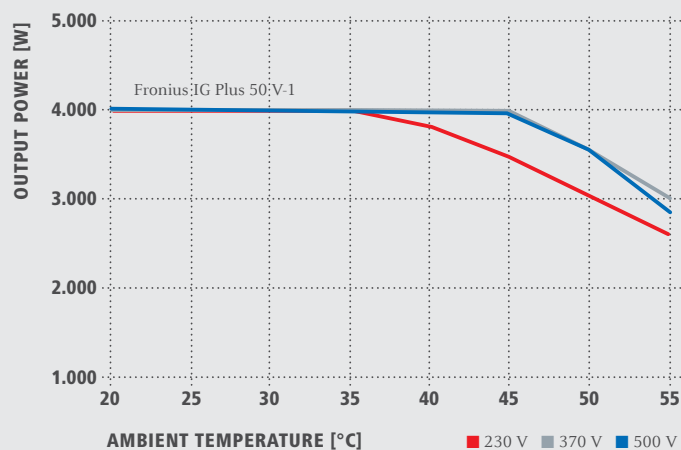
Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

¹⁾ 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, 60 V-1)

EFFICIENCY	25 V-1	30 V-1	35 V-1	50 V-1	60 V-1
Max. efficiency	95.7 %	95.7 %	95.7 %	95.7 %	95.7 %
European efficiency (η_{EU})	94.6 %	94.8 %	95.0 %	95.0 %	95.0 %
η at 5 % $P_{AC,r}^{1)}$	87.5 / 87.3 / 86.8 %	87.9 / 87.6 / 87.2 %	88.2 / 88.1 / 87.4 %	88.7 / 88.6 / 88.2 %	90.2 / 91.0 / 90.0 %
η at 10 % $P_{AC,r}^{1)}$	89.7 / 89.8 / 89.4 %	90.4 / 90.8 / 90.2 %	91.6 / 92.3 / 91.5 %	92.1 / 92.7 / 92.1 %	92.3 / 92.2 / 91.6 %
η at 20 % $P_{AC,r}^{1)}$	93.0 / 93.6 / 92.8 %	93.6 / 94.2 / 93.2 %	94.1 / 94.6 / 93.4 %	94.4 / 94.7 / 93.5 %	94.6 / 94.5 / 93.7 %
η at 25 % $P_{AC,r}^{1)}$	93.8 / 94.3 / 93.3 %	94.3 / 94.6 / 93.5 %	94.6 / 94.8 / 93.7 %	94.8 / 94.9 / 94.0 %	94.8 / 94.9 / 94.2 %
η at 30 % $P_{AC,r}^{1)}$	94.4 / 94.8 / 93.6 %	94.7 / 94.9 / 93.8 %	94.9 / 95.0 / 94.1 %	95.1 / 95.2 / 94.5 %	95.0 / 95.2 / 94.7 %
η at 50 % $P_{AC,r}^{1)}$	95.2 / 95.4 / 94.7 %	95.2 / 95.5 / 94.9 %	95.3 / 95.7 / 95.3 %	95.2 / 95.7 / 95.3 %	95.3 / 95.5 / 94.9 %
η at 75 % $P_{AC,r}^{1)}$	95.2 / 95.7 / 95.3 %	95.1 / 95.7 / 95.4 %	94.9 / 95.6 / 95.4 %	94.7 / 95.5 / 95.4 %	95.1 / 95.7 / 95.3 %
η at 100 % $P_{AC,r}^{1)}$	94.9 / 95.6 / 95.4 %	94.7 / 95.5 / 95.4 %	94.4 / 95.2 / 95.1 %	94.0 / 95.0 / 95.0 %	94.7 / 95.5 / 95.3 %
MPP adaptation efficiency	> 99.9 %				

PROTECTIVE EQUIPMENT	25 V-1	30 V-1	35 V-1	50 V-1	60 V-1
DC insulation measurement	Warning/shutdown (depending on country setup) at $R_{ISO} < 600 \text{ kOhm}$				
Overload behaviour	Operating point shift, power limitation				
DC circuit breaker	Integrated				

Fronius IG Plus 25 V-1 devices do not comply with the German medium-voltage directive.

Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

¹⁾ and at $U_{mpp \text{ min}} / U_{dc,r} / U_{mpp \text{ max}}$.

TECHNICAL DATA: FRONIUS IG PLUS (60 V-2, 70 V-2, 100 V-2)

INPUT DATA	60 V-2	70 V-2	100 V-2
DC maximum power at $\cos \varphi = 1$	6,320 A	6,880 W	8,520 W
Max. input current ($I_{dc \max}$)	27.5 A	29.9 A	37.0 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	60 V-2	70 V-2	100 V-2
AC nominal output ($P_{ac,r}$)	6,000 W	6,500 W	8,000 W
Max. output power	6,000 VA	6,500 VA	8,000 VA
Max. output current ($I_{ac \max}$)	13.0 A	14.1 A (28.3 A) ¹⁾	17.4 A (34.8 A) ¹⁾
Grid connection ($U_{ac,r}$)	2-NPE 400 V / 230 V	2-NPE 400 V / 230 V (1-NPE 230 V) ¹⁾	
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	60 V-2	70 V-2	100 V-2
Dimensions (height x width x depth)		968 x 434 x 250 mm	
Weight		36.9 kg	
Degree of protection		IP 44 ²⁾	
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 to +55°C	
Permitted humidity		0 % to 95 %	
DC connection technology		Screw terminal connection 1.5 mm ² – 16 mm ²	
AC connection technology		Screw terminal connection 2.5 mm ² – 35 mm ²	
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, CEI 0-21, AS 4777-1, AS 4777-2, AS 4777-3, VDE AR N 4105, Generating systems on the medium-voltage network (BDEW)	

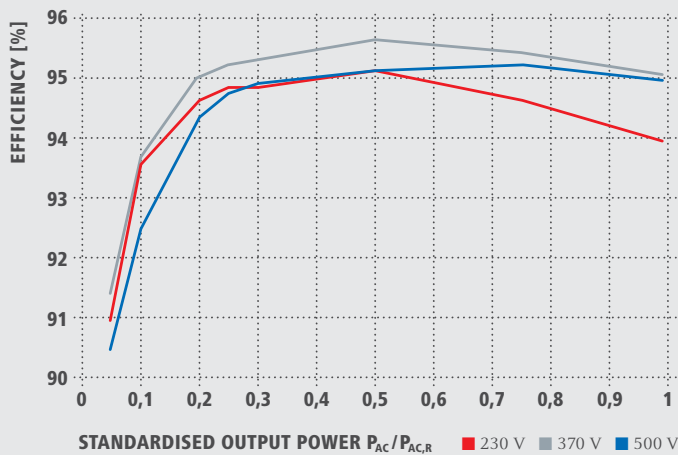
Fronius IG Plus 60 V-2 devices do not comply with the German medium-voltage directive.

Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

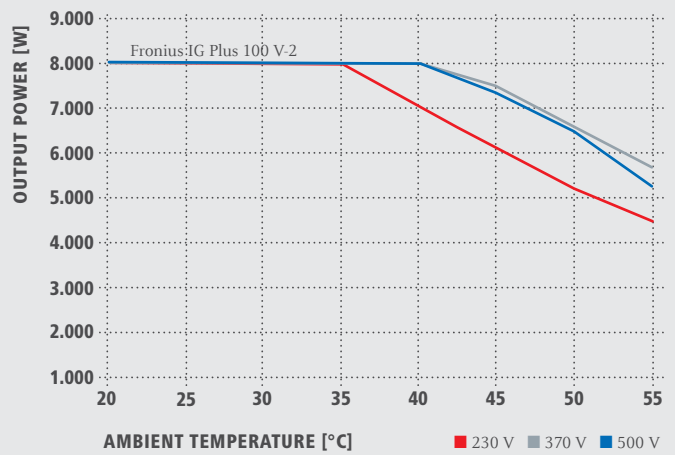
¹⁾ Single-phase (opt.)

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

FRONIUS IG PLUS 100 V-2 EFFICIENCY CURVE



FRONIUS IG PLUS V TEMPERATURE DERATING



TECHNICAL DATA: FRONIUS IG PLUS (60 V-2, 70 V-2, 100 V-2)

EFFICIENCY	60 V-2	70 V-2	100 V-2
Max. efficiency	95.7 %	95.7 %	95.7 %
European efficiency (η_{EU})	95.0 %	95.1 %	95.2 %
η at 5 % $P_{ac,r}^{1)}$	90.2 / 91.0 / 90.0 %	90.4 / 91.1 / 90.3 %	90.9 / 91.4 / 90.5 %
η at 10 % $P_{ac,r}^{1)}$	92.3 / 92.2 / 91.6 %	93.0 / 93.2 / 92.0 %	93.6 / 93.7 / 92.5 %
η at 20 % $P_{ac,r}^{1)}$	94.6 / 94.5 / 93.7 %	94.7 / 94.7 / 94.0 %	94.7 / 95.1 / 94.4 %
η at 25 % $P_{ac,r}^{1)}$	94.8 / 94.9 / 94.2 %	94.9 / 95.1 / 94.4 %	94.9 / 95.3 / 94.8 %
η at 30 % $P_{ac,r}^{1)}$	95.0 / 95.2 / 94.7 %	95.0 / 95.3 / 94.8 %	94.9 / 95.4 / 95.0 %
η at 50 % $P_{ac,r}^{1)}$	95.3 / 95.5 / 94.9 %	95.3 / 95.5 / 94.9 %	95.2 / 95.7 / 95.2 %
η at 75 % $P_{ac,r}^{1)}$	95.1 / 95.7 / 95.3 %	95.0 / 95.7 / 95.3 %	94.7 / 95.5 / 95.3 %
η at 100 % $P_{ac,r}^{1)}$	94.7 / 95.5 / 95.3 %	94.5 / 95.4 / 95.2 %	94.0 / 95.1 / 95.0 %
MPP adaptation efficiency		> 99.9 %	

PROTECTIVE EQUIPMENT	60 V-2	70 V-2	100 V-2
DC insulation measurement		Warning/shutdown (depending on country setup) at $R_{ISO} < 600 \text{ k}\Omega$	
Overload behaviour		Operating point shift, power limitation	
DC circuit breaker		Integrated	

Fronius IG Plus 60 V-2 devices do not comply with the German medium-voltage directive.

Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

¹⁾ and at $U_{mpp \text{ min}} / U_{dc,r} / U_{mpp \text{ max}}$.

TECHNICAL DATA: FRONIUS IG PLUS (55 V-3 / 60 V-3 / 80 V-3 / 100 V-3 / 120 V-3 / 150 V-3)

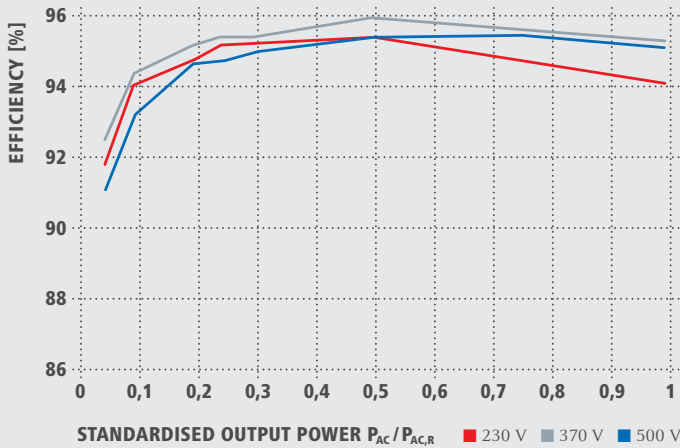
INPUT DATA	55 V-3	60 V-3	80 V-3	100 V-3	120 V-3	150 V-3
DC maximum power at $\cos \varphi = 1$	5,250 W	6,300 W	7,360 W	8,430 W	10,590 W	12,770 W
Max. input current ($I_{dc\ max}$)	22.8 A	27.5 A	32.0 A	36.7 A	46.0 A	55.5 A
Min. input voltage ($U_{dc\ min}$)	230 V					
Feed-in start voltage ($U_{dc\ start}$)	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	55 V-3	60 V-3	80 V-3	100 V-3	120 V-3	150 V-3
AC nominal output ($P_{ac,r}$)	5,000 W	6,000 W	7,000 W	8,000 W	10,000 W	12,000 W
Max. output power	5,000 VA	6,000 VA	7,000 VA	8,000 VA	10,000 VA	12,000 VA
Max. output current ($I_{ac\ max}$)	7.3 A	8.7 A	10.2 A	11.6 A	14.5 A	17.4 A
Grid connection ($U_{ac,r}$)	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	55 V-3	60 V-3	80 V-3	100 V-3	120 V-3	150 V-3
Dimensions (height x width x depth)	1,263 x 434 x 250 mm					
Weight	49.2 kg					
Degree of protection	IP 44 ¹⁾					
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	-20 - +55 °C					
Permitted humidity	0 % to 95 %					
DC connection technology	Screw terminal connection, 1.5 - 16 mm ²					
AC connection technology	Screw terminal connection, 2.5 - 35 mm ²					
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, CEI 0-21, AS 4777-1, AS 4777-2, AS 4777-3, VDE AR N 4105, Generating systems on the medium-voltage network (BDEW)					

Fronius IG Plus 55 V-3, Fronius IG Plus 60 V-3 and Fronius IG Plus 80 V-3 devices do not comply with German medium-voltage directive. Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

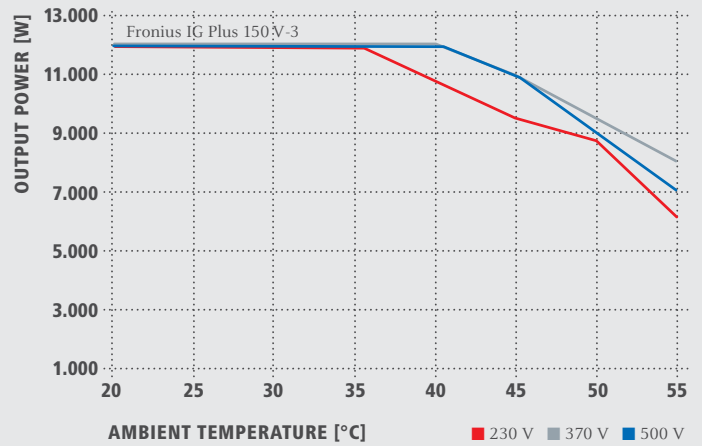
¹⁾ Please refer to the information in the operating instructions regarding correct installation of the inverter.

**BROAD 3-PHASE INVERTER
RANGE FROM 5 TO 12 KW!**

FRONIUS IG PLUS 150 V-3 EFFICIENCY CURVE



FRONIUS IG PLUS V TEMPERATURE DERATING



TECHNICAL DATA: FRONIUS IG PLUS (55 V-3 / 60 V-3 / 80 V-3 / 100 V-3 / 120 V-3 / 150 V-3)

EFFICIENCY	55 V-3	60 V-3	80 V-3	100 V-3	120 V-3	150 V-3
Max. efficiency	95.9 %	95.9 %	95.9 %	95.9 %	95.9 %	95.9 %
European efficiency (η_{EU})	94.9 %	95.0 %	95.1 %	95.3 %	95.4 %	95.4 %
η at 5% $P_{ac,r}^{1)}$	90.5 / 91.6 / 89.9 %	90.7 / 91.6 / 90.1 %	90.8 / 91.8 / 90.2 %	91.7 / 91.9 / 90.3 %	91.5 / 92.2 / 90.7 %	91.8 / 92.5 / 91.1 %
η at 10% $P_{ac,r}^{1)}$	91.5 / 92.2 / 90.8 %	91.8 / 92.5 / 91.1 %	92.1 / 92.8 / 91.5 %	93.1 / 93.1 / 92.0 %	93.4 / 93.7 / 92.6 %	94.0 / 94.3 / 93.2 %
η at 20% $P_{ac,r}^{1)}$	93.4 / 93.6 / 93.3 %	94.1 / 94.3 / 93.2 %	94.2 / 94.5 / 93.6 %	94.3 / 94.9 / 94.2 %	94.6 / 95.2 / 94.5 %	94.7 / 95.1 / 94.6 %
η at 25% $P_{ac,r}^{1)}$	94.1 / 94.2 / 93.3 %	94.4 / 94.7 / 93.8 %	94.6 / 94.9 / 94.3 %	94.6 / 95.2 / 94.5 %	94.7 / 95.3 / 94.7 %	95.1 / 95.3 / 94.7 %
η at 30% $P_{ac,r}^{1)}$	94.4 / 94.5 / 93.8 %	94.5 / 95.0 / 94.4 %	94.6 / 95.2 / 94.6 %	94.7 / 95.2 / 94.5 %	95.0 / 95.4 / 94.7 %	95.1 / 95.3 / 94.9 %
η at 50% $P_{ac,r}^{1)}$	94.7 / 95.4 / 94.7 %	95.1 / 95.4 / 94.6 %	95.1 / 95.5 / 94.9 %	95.3 / 95.8 / 95.0 %	95.3 / 95.9 / 95.1 %	95.3 / 95.9 / 95.3 %
η at 75% $P_{ac,r}^{1)}$	95.2 / 95.7 / 95.0 %	95.3 / 95.7 / 95.0 %	95.3 / 95.9 / 95.1 %	95.3 / 95.9 / 95.3 %	95.0 / 95.5 / 95.4 %	94.7 / 95.6 / 95.4 %
η at 100% $P_{ac,r}^{1)}$	95.3 / 95.9 / 95.2 %	95.3 / 95.9 / 95.3 %	95.1 / 95.7 / 95.4 %	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	55 V-3	60 V-3	80 V-3	100 V-3	120 V-3	150 V-3
DC insulation measurement	Warning/shutdown (depending on country setup) at $R_{ISO} < 600 \text{ kOhm}$					
Overload behaviour	Operating point shift, power limitation					
DC circuit breaker	Integrated					

Fronius IG Plus 55 V-3, Fronius IG Plus 60 V-3 and Fronius IG Plus 80 V-3 devices do not comply with German medium-voltage directive. Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

¹⁾ and at $U_{mpp \text{ min}} / U_{dc,r} / U_{mpp \text{ max}}$.

/ 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 around 3,000 employees worldwide, we shift the limits of what's possible - our more than 850 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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