

# FRONIUS IG PLUS

/ The allrounder with maximum yield.



/ Fronius MIX™ technology



/ HF transformer switchover



/ PC board replacement process



/ WLAN interface



/ Smart Grid Ready



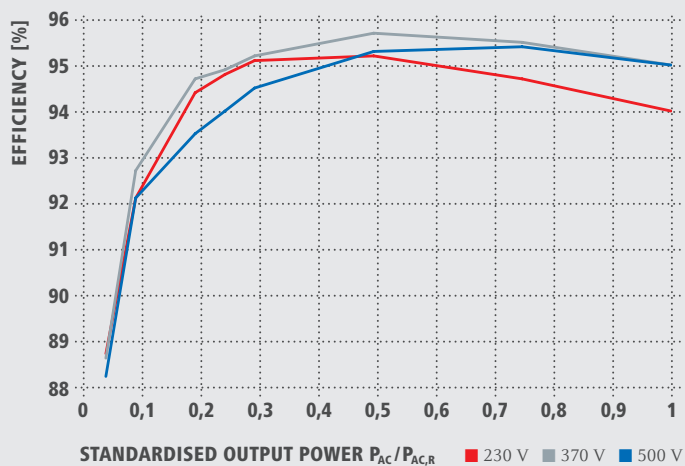
/ The Fronius IG Plus generation of inverters represents an evolution of the proven Fronius IG product family. Power categories from 2.6 to 12 kW promise suitability for every possible system size. With a maximum efficiency of 95.9 %, the Fronius IG Plus range achieves one of the highest values for transformer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

## TECHNICAL DATA: FRONIUS IG PLUS (25 V-1, 30 V-1, 35 V-1, 50 V-1, 55 V-1, 60 V-1, 70 V-1, 100 V-1)

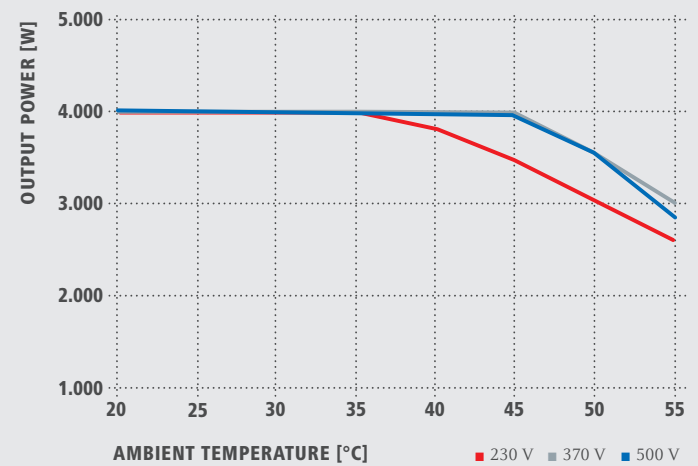
INPUT DATA	25 V-1	30 V-1	35 V-1	50 V-1	55 V-1	60 V-1	70 V-1	100 V-1
DC maximum power at $\cos \varphi = 1$	2,740 W	3,170 W	3,710 W	4,260 W	5,260 W	6,320 W	6,880 W	8,520 W
Max. input current ( $I_{dc \max}$ )	11.9 A	13.8 A	16.2 A	18.6 A	22.9 A	27.5 A	29.9 A	37.0 A
Max. array short circuit current	17.9 A	20.7 A	24.3 A	27.9 A	34.4 A	41.3 A	45.0 A	55.7 A
Min. input voltage ( $U_{dc \min}$ )	230 V							
Feed-in start voltage ( $U_{dc \text{ start}}$ )	260 V							
Nominal input voltage ( $U_{dc \text{ r}}$ )	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	55 V-1	60 V-1	70 V-1	100 V-1
AC-Nennleistung ( $P_{ac \text{ r}}$ )	2,600 W	3,000 W	3,500 W	4,000 W	5,000 W	6,000 W	6,500 W	8,000 W
Max. output power	2,600 VA	3,000 VA	3,500 VA	4,000 VA	5,000 VA	6,000 VA	6,500 VA	8,000 VA
Max. output current ( $I_{ac \max}$ )	11.3 A	13.0 A	15.2 A	17.4 A	21.7 A	26.1 A	28.3 A	34.8 A
Grid connection ( $U_{ac \text{ r}}$ )	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 ( $\cos \varphi_{ac \text{ r}}$ )	0.75 – 1 ind. / cap.							
GENERAL DATA	25 V-1	30 V-1	35 V-1	50 V-1	55 V-1	60 V-1	70 V-1	100 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 <sup>1)</sup>							
Protection class	1							
Overvoltage category (DC / AC)	2 / 3							
Night-time consumption	ca. 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 <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	AS 4777-2&3, IEC 62109-1&2, G59, G83, EN 50438, DIN V VDE V 0126-1-1, ÖVE / ÖNORM E 8001-4-712, UTE C15-712-1, C 10 / 11, CER 06-190, CEI 0-21, VDE AR N 4105, Generating systems on the medium-voltage network (BDEW)							

<sup>1)</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 50 V-1 TEMPERATURE DERATING



### TECHNICAL DATA: FRONIUS IG PLUS (25 V-1, 30 V-1, 35 V-1, 50 V-1, 55 V-1, 60 V-1, 70 V-1, 100 V-1)

EFFICIENCY	25 V-1	30 V-1	35 V-1	50 V-1	55 V-1	60 V-1	70 V-1	100 V-1
Max. efficiency	95.7 %	95.7 %	95.7 %	95.7 %	95.7 %	95.7 %	95.7 %	95.7 %
European efficiency ( $\eta_{EU}$ )	94.6 %	94.8 %	95.0 %	95.0 %	94.9 %	95.0 %	95.1 %	95.2 %
$\eta$ 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 %	89.7 / 90.3 / 89.6 %	90.2 / 91.0 / 90.0 %	90.4 / 91.1 / 90.3 %	90.9 / 91.4 / 90.5 %
$\eta$ 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 %	91.4 / 91.8 / 90.8 %	92.3 / 92.2 / 91.6 %	93.0 / 93.2 / 92.0 %	93.6 / 93.7 / 92.5 %
$\eta$ 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 %	93.9 / 94.1 / 92.9 %	94.6 / 94.5 / 93.7 %	94.7 / 94.7 / 94.0 %	94.7 / 95.1 / 94.4 %
$\eta$ 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 %	94.4 / 94.6 / 93.6 %	94.8 / 94.9 / 94.2 %	94.9 / 95.1 / 94.4 %	94.9 / 95.3 / 94.8 %
$\eta$ 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 %	94.6 / 94.6 / 94.0 %	95.0 / 95.2 / 94.7 %	95.0 / 95.3 / 94.8 %	94.9 / 95.4 / 95.0 %
$\eta$ 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 %	94.9 / 95.5 / 94.7 %	95.3 / 95.5 / 94.9 %	95.3 / 95.5 / 94.9 %	95.2 / 95.7 / 95.2 %
$\eta$ 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 %	95.0 / 95.6 / 94.9 %	95.1 / 95.7 / 95.3 %	95.0 / 95.7 / 95.3 %	94.7 / 95.5 / 95.3 %
$\eta$ 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 %	95.1 / 95.7 / 95.2 %	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	25 V-1	30 V-1	35 V-1	50 V-1	55 V-1	60 V-1	70 V-1	100 V-1
DC insulation measurement	Warning/shutdown (depending on country setup) at $R_{ISO} < 600$ kOhm							
Overload behaviour	Operating point shift, power limitation							
DC circuit breaker	Integrated							

INTERFACES	25 V-1	30 V-1	35 V-1	50 V-1	55 V-1	60 V-1	70 V-1	100 V-1
Optional with Fronius Datamanager	WLAN, Ethernet, Modbus TCP, 6 digital inputs, 4 digital inputs/outputs, Datalogger, Webserver							

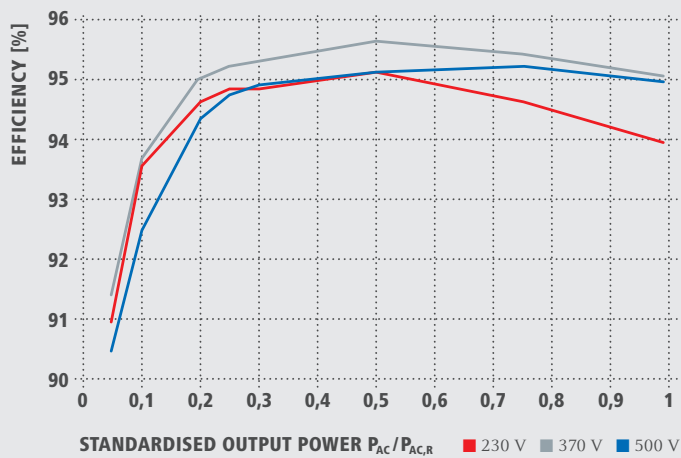
<sup>1)</sup> and at  $U_{mpp \min} / U_{dc,r} / U_{mpp \max}$ .

## TECHNICAL DATA: FRONIUS IG PLUS (55 V-2, 60 V-2, 70 V-2, 100 V-2)

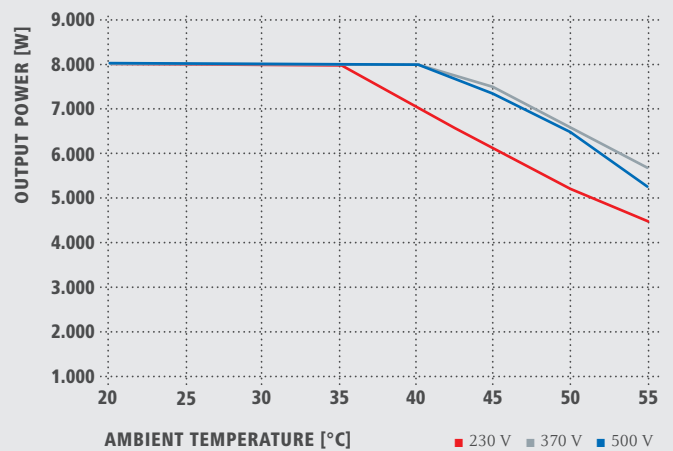
INPUT DATA	55 V-2	60 V-2	70 V-2	100 V-2
DC maximum power at $\cos \varphi = 1$	5,260 W	6,320 W	6,880 W	8,520 W
Max. input current ( $I_{dc \max}$ )	22.9 A	27.5 A	30.0 A	37.1 A
Max. array short circuit current	34.4 A	41.3 A	45.0 A	55.7 A
Min. input voltage ( $U_{dc \min}$ )	230 V			
Feed-in start voltage ( $U_{dc \text{ start}}$ )	260 V			
Nominal input voltage ( $U_{dc \text{ r}}$ )	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-2	60 V-2	70 V-2	100 V-2
AC nominal output ( $P_{ac \text{ r}}$ )	5,000 W	6,000 W	6,500 W	8,000 W
Max. output power	5,000 VA	6,000 VA	6,500 VA	8,000 VA
Max. output current ( $I_{ac \max}$ )	10.9 A	13.0 A	14.1 A	17.4 A
Grid connection ( $U_{ac \text{ r}}$ )	2-NPE 400 V / 230 V		2-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 ( $\cos \varphi_{ac \text{ r}}$ )	0.75 – 1 ind. / cap.			
GENERAL DATA	55 V-2	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 <sup>1)</sup>			
Protection class	1			
Overvoltage category (DC / AC)	2 / 3			
Night-time consumption	ca. 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 <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	AS 4777-2&3, IEC 62109-1&2, G59, G83, EN 50438, DIN V VDE V 0126-1-1, ÖVE / ÖNORM E 8001-4-712, UTE C15-712-1, C 10 / 11, CER 06-190, CEI 0-21, VDE AR N 4105, Generating systems on the medium-voltage network (BDEW)			

<sup>1)</sup>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 100 V-2 TEMPERATURE DERATING



### TECHNICAL DATA: FRONIUS IG PLUS (55 V-2, 60 V-2, 70 V-2, 100 V-2)

EFFICIENCY	55 V-2	60 V-2	70 V-2	100 V-2
Max. efficiency	95.7 %	95.7 %	95.7 %	95.7 %
European efficiency ( $\eta_{EU}$ )	94.9 %	95.0 %	95.1 %	95.2 %
$\eta$ at 5 % $P_{ac,r}^{1)}$	89.7 / 90.3 / 89.6 %	90.2 / 91.0 / 90.0 %	90.4 / 91.1 / 90.3 %	90.9 / 91.4 / 90.5 %
$\eta$ at 10 % $P_{ac,r}^{1)}$	91.4 / 91.8 / 90.8 %	92.3 / 92.2 / 91.6 %	93.0 / 93.2 / 92.0 %	93.6 / 93.7 / 92.5 %
$\eta$ at 20 % $P_{ac,r}^{1)}$	93.9 / 94.1 / 92.9 %	94.6 / 94.5 / 93.7 %	94.7 / 94.7 / 94.0 %	94.7 / 95.1 / 94.4 %
$\eta$ at 25 % $P_{ac,r}^{1)}$	94.4 / 94.6 / 93.6 %	94.8 / 94.9 / 94.2 %	94.9 / 95.1 / 94.4 %	94.9 / 95.3 / 94.8 %
$\eta$ at 30 % $P_{ac,r}^{1)}$	94.6 / 94.6 / 94.0 %	95.0 / 95. 2 / 94.7 %	95.0 / 95.3 / 94.8 %	94.9 / 95.4 / 95.0 %
$\eta$ at 50 % $P_{ac,r}^{1)}$	94.9 / 95.5 / 94.7 %	95.3 / 95.5 / 94.9 %	95.3 / 95.5 / 94.9 %	95.2 / 95.7 / 95.2 %
$\eta$ at 75 % $P_{ac,r}^{1)}$	95.0 / 95.6 / 94.9 %	95.1 / 95.7 / 95.3 %	95.0 / 95.7 / 95.3 %	94.7 / 95.5 / 95.3 %
$\eta$ at 100 % $P_{ac,r}^{1)}$	95.1 / 95.7 / 95.2 %	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	55 V-2	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			
INTERFACES	55 V-2	60 V-2	70 V-2	100 V-2
Optional with Fronius Datamanager	WLAN, Ethernet, Modbus TCP, 6 digital inputs, 4 digital inputs/outputs, Datalogger, Webservice			

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

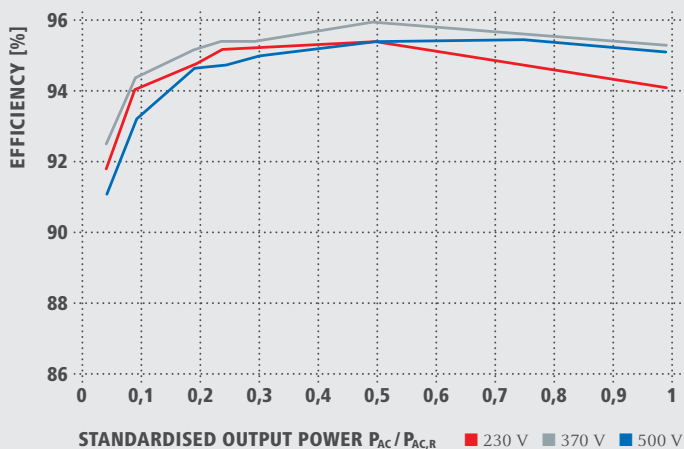
## TECHNICAL DATA: FRONIUS IG PLUS (55 V-3 / 60 V-3 / 80 V-3 / 100 V-3 / 120 V-3 / 150 V-3)

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	46.2 A	55.6 A
Max. array short circuit current	34.2 A	41.3 A	48.0 A	55.1 A	69.3 A	83.4 A
Min. input voltage ( $U_{dc \min}$ )	230 V					
Feed-in start voltage ( $U_{dc \text{ start}}$ )	260 V					
Nominal input voltage ( $U_{dc \text{ r}}$ )	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 ( $P_{ac \text{ r}}$ )	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 ( $U_{ac \text{ r}}$ )	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 ( $\cos \varphi_{ac \text{ r}}$ )	0.75 - 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 <sup>1)</sup>					
Protection class	1					
Overvoltage category (DC / AC)	2 / 3					
Night-time consumption	ca. 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 <sup>2</sup>					
AC connection technology	Screw terminal connection, 2.5 - 35 mm <sup>2</sup>					
Certificates and compliance with standards	AS 4777-2&3, IEC 62109-1&2, G59, G83, EN 50438, DIN V VDE V 0126-1-1, ÖVE / ÖNORM E 8001-4-712, UTE C15-712-1, C 10 / 11, CER 06-190, CEI 0-21, VDE AR N 4105, Generating systems on the medium-voltage network (BDEW)					

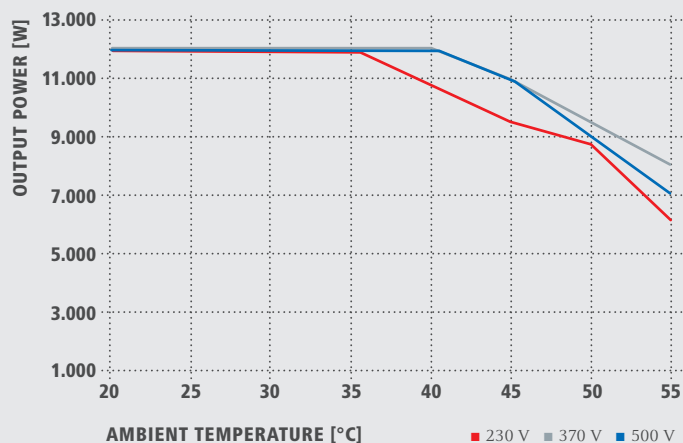
<sup>1)</sup> Please refer to the information in the operating instructions regarding correct installation of the inverter.

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

## FRONIUS IG PLUS 150 V-3 EFFICIENCY CURVE



## FRONIUS IG PLUS 150 V-3 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 ( $\eta_{EU}$ )	94.9 %	95.0 %	95.1 %	95.3 %	95.4 %	95.4 %
$\eta$ 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 %
$\eta$ 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 %
$\eta$ 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 %
$\eta$ 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 %
$\eta$ 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 %
$\eta$ 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 %
$\eta$ 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 %
$\eta$ 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 $R_{iso} < 600 \text{ k}\Omega$					
Overload behaviour	Operating point shift, power limitation					
DC circuit breaker	Integrated					

INTERFACES	55 V-3	60 V-3	80 V-3	100 V-3	120 V-3	150 V-3
Optional with Fronius Datamanager	WLAN, Ethernet, Modbus TCP, 6 digital inputs, 4 digital inputs/outputs, Datalogger, Webserver					

<sup>1)</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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