

FRONIUS IG PLUS

/ The allrounder with maximum yield.

/ Fronius
MIX™ technology/ HF transformer
switchover/ PC board replace-
ment 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)

INPUT DATA	25 V-1	30 V-1	35 V-1	50 V-1	55 V-1	60 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
Max. input current ($I_{dc \max}$)	11.9 A	13.8 A	16.2 A	18.6 A	22.9 A	27.5 A
Max. array short circuit current	17.9 A	20.7 A	24.3 A	27.9 A	34.4 A	41.3 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
AC-Nennleistung ($P_{ac \text{ r}}$)	2,600 W	3,000 W	3,500 W	4,000 W	5,000 W	6,000 W
Max. output power	2,600 VA	3,000 VA	3,500 VA	4,000 VA	5,000 VA	6,000 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
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. ¹⁾					

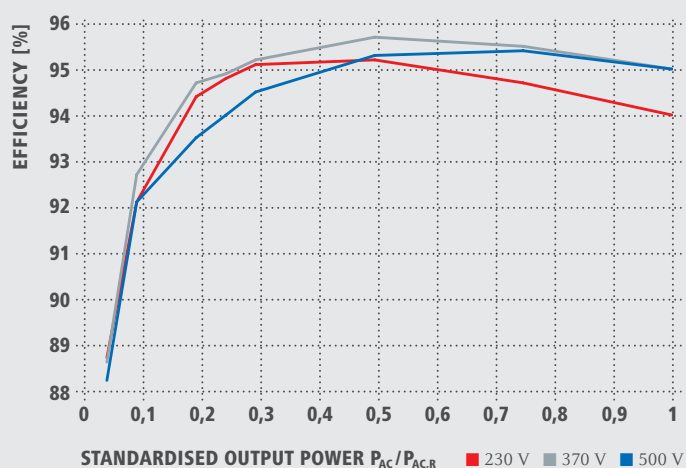
GENERAL DATA	25 V-1	30 V-1	35 V-1	50 V-1	55 V-1	60 V-1
Dimensions (height x width x depth)	673 x 434 x 250 mm				968 x 434 x 250 mm	
Weight	23.8 kg				36.9 kg	
Degree of protection	IP 54 ²⁾					
Protection class	1					
Overvoltage category (DC / AC)	2 / 3					
Night-time consumption	ca. 1 W					
Inverter 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 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, Fronius IG Plus 55 V-1 and Fronius IG Plus 60 V-1 devices do not comply with the German medium-voltage directive. Fronius IG Plus 55 V-1 and Fronius IG Plus 60 V-1 are not certified in accordance with the German low-voltage directive.

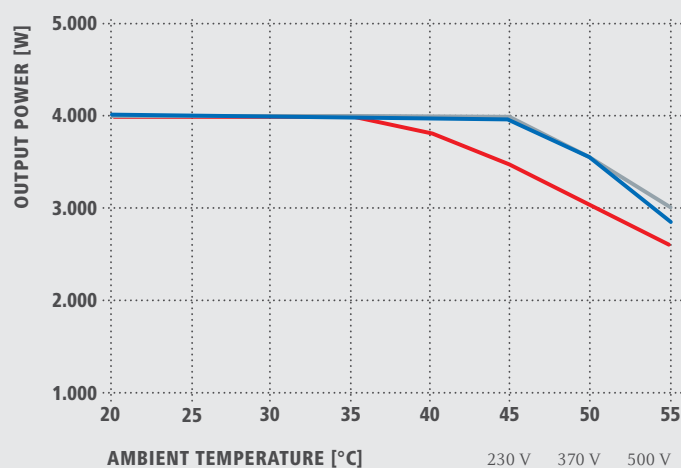
Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

¹⁾ country-specific ²⁾ Please refer to the information in the operating instructions regarding correct installation of the inverter (e.g. IP 44 applies to Australia).

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)

EFFICIENCY	25 V-1	30 V-1	35 V-1	50 V-1	55 V-1	60 V-1
Max. efficiency	95.7 %	95.7 %	95.7 %	95.7 %	95.7 %	95.7 %
European efficiency (η_{EU})	94.6 %	94.8 %	95.0 %	95.0 %	94.9 %	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 %	89.7 / 90.3 / 89.6 %	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 %	91.4 / 91.8 / 90.8 %	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 %	93.9 / 94.1 / 92.9 %	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 %	94.4 / 94.6 / 93.6 %	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 %	94.6 / 94.6 / 94.0 %	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 %	94.9 / 95.5 / 94.7 %	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 %	95.0 / 95.6 / 94.9 %	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 %	95.1 / 95.7 / 95.2 %	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	55 V-1	60 V-1
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	25 V-1	30 V-1	35 V-1	50 V-1	55 V-1	60 V-1
Optional with Fronius Datamanager	WLAN, Ethernet, Modbus TCP, 6 digital inputs, 4 digital inputs/outputs, Datalogger, Webserver					

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

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 (28.3 A) ¹⁾	17.4 A (34.8 A) ¹⁾
Grid connection ($U_{ac \text{ r}}$)	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 ($\cos \varphi_{ac \text{ r}}$)	0.75 – 1 ind. / cap. ²⁾			
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 54 ³⁾			
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 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 55 V-2 and Fronius IG Plus 60 V-2 devices do not comply with the German medium-voltage directive.

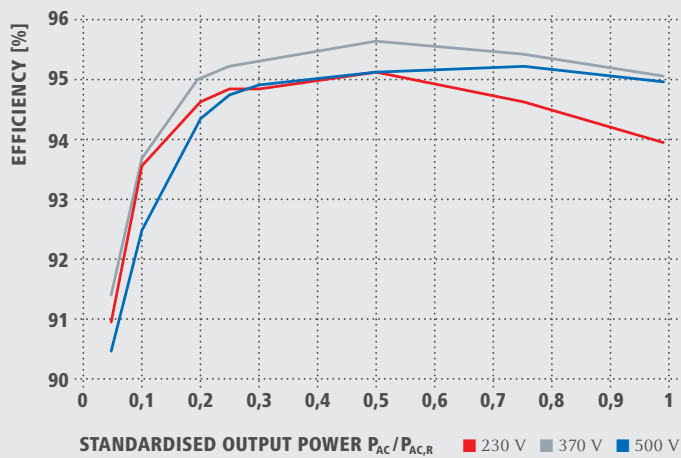
Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

¹⁾ Single-phase (opt.)

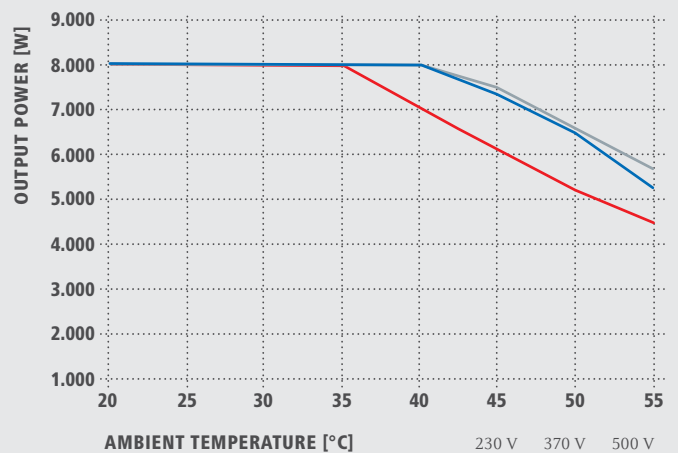
²⁾ country-specific

³⁾ Please refer to the information in the operating instructions regarding correct installation of the inverter (e.g. IG 44 applies to Australia).

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 (η_{EU})	94.9 %	95.0 %	95.1 %	95.2 %
η 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 %
η 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 %
η 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 %
η 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 %
η 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 %
η 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 %
η 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 %
η 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, Webserver			

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	46.2 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. ¹⁾					

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 54 ²⁾					
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 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)					

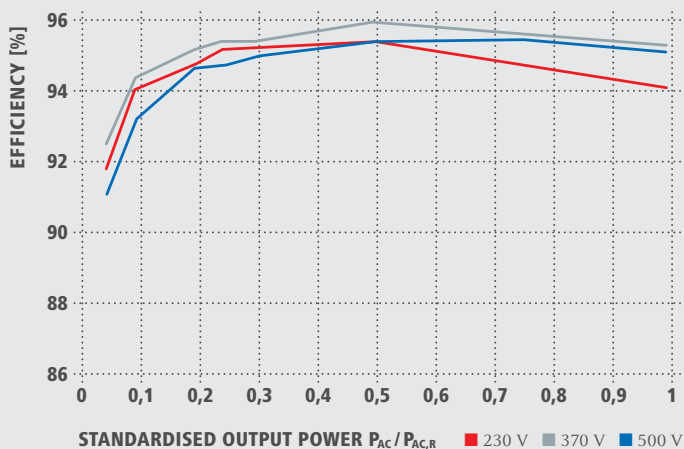
Fronius IG Plus 55 V-3, Fronius IG Plus 60 V-3 and Fronius IG Plus 80 V-3 devices do not comply with German medium-voltage directive. Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

¹⁾ country-specific

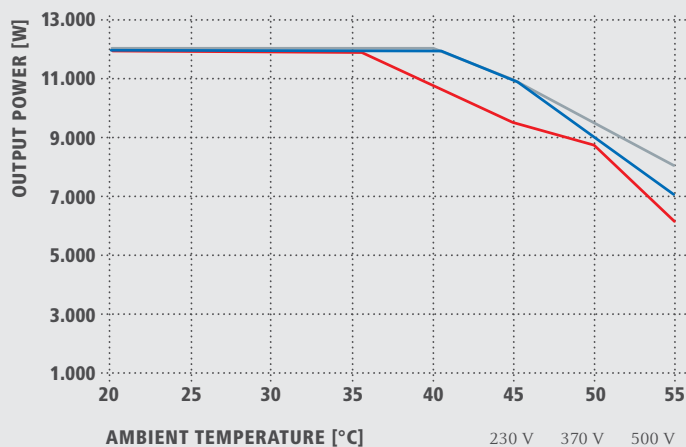
²⁾ Please refer to the information in the operating instructions regarding correct installation of the inverter (e.g. IP 44 applies to Australia).

**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 (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 $R_{ISO} < 600 \text{ k}\Omega$					
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					

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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