

FRONIUS IG TL

/ The inverter-series with system monitoring as standard.

/ PC board
replacement process

/ Mounting system



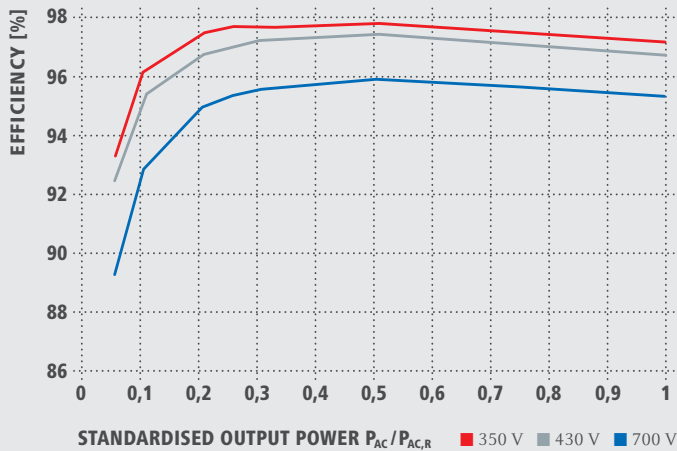
/ The Fronius IG TL combines all the benefits of a transformerless inverter with the high level of innovation and quality expected of Fronius. With power categories ranging from 3 to 5 kW, the Fronius IG TL is perfect for systems of any size from detached houses to agricultural or commercial premises. Standard system monitoring makes it the most future-proof transformerless inverter on the market, and the one that will produce the most reliable yield.

TECHNICAL DATA: FRONIUS IG TL

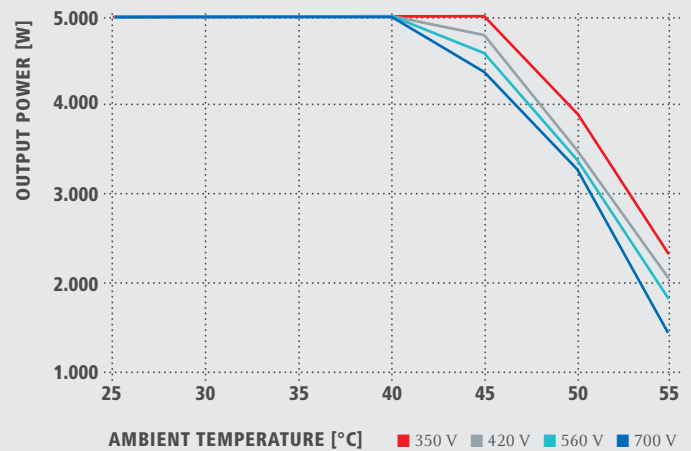
INPUT DATA	IG TL 3.0	IG TL 3.6	IG TL 4.0	IG TL 4.6	IG TL 5.0
DC maximum power at $\cos \varphi = 1$	3,130 W	3,850 W	4,190 W	4,820 W	5,250 W
Max. input current ($I_{dc \max}$)	8.8 A	10.8 A	11.8 A	13.5 A	14.7 A
Max. array short circuit current	13.2 A	16.2 A	17.7 A	20.3 A	22.1 A
Min. input voltage ($U_{dc \min}$)			350 V		
Feed-in start voltage ($U_{dc \text{ start}}$)			350 V		
Nominal input voltage ($U_{dc \text{ r}}$)			350 V		
Max. input voltage ($U_{dc \max}$)			850 V		
MPP voltage range ($U_{mpp \min} - U_{mpp \max}$)			350 V – 700 V		
Number of DC inputs			6		
OUTPUT DATA	IG TL 3.0	IG TL 3.6	IG TL 4.0	IG TL 4.6	IG TL 5.0
AC nominal output ($P_{ac \text{ r}}$)	3,000 W	3,680 W	4,000 W	4,600 W	4,600 W ¹⁾ / 5,000 W
Max. output power	3,000 W	3,680 W	4,000 W	4,600 W	5,000 W
Max. output current ($I_{ac \max}$)	13.0 A	16.0 A	17.4 A	20.0 A	21.7 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 Hz – 65 Hz		
Distortion factor (50 Hz / 60 Hz)			< 3% / < 3.5%		
Power factor ($\cos \varphi_{ac \text{ r}}$)			1		
GENERAL DATA	IG TL 3.0	IG TL 3.6	IG TL 4.0	IG TL 4.6	IG TL 5.0
Dimensions (height x width x depth)			597 x 413 x 195 mm		
Weight			19.1 kg		
Degree of protection			IP 55 ²⁾		
Protection class			1		
Overvoltage category (DC / AC)			2 / 3		
Night-time consumption			ca. 1 W		
Inverter concept			Transformerless		
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 2.5 mm ² – 16 mm ²		
AC connection technology			Screw terminal connection 2.5 mm ² – 16 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, AS 4777-1, AS 4777-2, AS 4777-3		

Further information regarding the availability of the inverters in your country can be found at www.fronius.com.¹⁾ Fronius IG TL 5.0 devices destined for Austria, Belgium and the Czech Republic have an AC nominal output of 4,600 W.²⁾ Please refer to the information in the operating instructions regarding correct installation of the inverter (e.g. IP 45 applies to Australia).

FRONIUS IG TL 5.0 EFFICIENCY CURVE



FRONIUS IG TL 5.0 TEMPERATURE DERATING



TECHNICAL DATA: FRONIUS IG TL

EFFICIENCY	IG TL 3.0	IG TL 3.6	IG TL 4.0	IG TL 4.6	IG TL 5.0
Max. efficiency	97.7 %	97.7 %	97.7 %	97.7 %	97.7 %
European efficiency (η_{EU})	97.1 %	97.2 %	97.3 %	97.3 %	97.3 %
η at 5% $P_{Ac,r}^{(1)}$	92.1 / 87.8 %	92.6 / 88.3 %	92.9 / 88.6 %	93.1 / 89.1 %	93.4 / 89.4 %
η at 10% $P_{Ac,r}^{(1)}$	94.2 / 90.2 %	95.3 / 91.2 %	95.7 / 91.8 %	96.0 / 92.6 %	96.1 / 92.9 %
η at 20% $P_{Ac,r}^{(1)}$	96.6 / 93.6 %	96.9 / 94.2 %	97.2 / 94.5 %	97.3 / 94.8 %	97.4 / 94.9 %
η at 25% $P_{Ac,r}^{(1)}$	97.0 / 94.3 %	97.2 / 94.7 %	97.4 / 94.9 %	97.5 / 95.2 %	97.6 / 95.3 %
η at 30% $P_{Ac,r}^{(1)}$	97.3 / 94.7 %	97.4 / 95.1 %	97.5 / 95.2 %	97.6 / 95.4 %	97.6 / 95.5 %
η at 50% $P_{Ac,r}^{(1)}$	97.6 / 95.5 %	97.6 / 95.7 %	97.7 / 95.7 %	97.7 / 95.8 %	97.7 / 95.8 %
η at 75% $P_{Ac,r}^{(1)}$	97.6 / 95.8 %	97.6 / 95.8 %	97.5 / 95.7 %	97.4 / 95.7 %	97.4 / 95.6 %
η at 100% $P_{Ac,r}^{(1)}$	97.5 / 95.7 %	97.4 / 95.6 %	97.3 / 95.5 %	97.2 / 95.4 %	97.0 / 95.2 %
MPP adaptation efficiency			> 99.9 %		

PROTECTIVE EQUIPMENT	IG TL 3.0	IG TL 3.6	IG TL 4.0	IG TL 4.6	IG TL 5.0
DC insulation measurement			Universal current-sensitive fault monitoring		
Overload behaviour			Operating point shift, power limitation		
DC circuit breaker			Integrated		

INTERFACES	IG TL 3.0	IG TL 3.6	IG TL 4.0	IG TL 4.6	IG TL 5.0
USB A socket			For USB sticks ²⁾ with max. dimensions of 80 x 33 x 20 mm (l x w x h)		
Signalling output			2-pin screw terminal, 12 V max. 300 mA		
2x RS422 (RJ45 socket)			Fronius Solar Net, interface protocol		

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¹⁾ and at $U_{mpp\ min} / U_{mpp\ max}$.

²⁾ Please refer to the information in the operating instructions regarding the use of USB sticks (temperature range).

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/ Whether welding technology, photovoltaics or battery charging technology – our goal is clearly defined: to be the innovation leader. With around 3,000 employees worldwide, we shift the limits of what's possible - our record of over 1,000 granted patents is testimony to this. While others progress step by step, we innovate in leaps and bounds. Just as we've always done. The responsible use of our resources forms the basis of our corporate policy.

Further information about all Fronius products and our global sales partners and representatives can be found at www.fronius.com



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