

# FRONIUS IG TL TRANSFORMERLESS INVERTER

/ Best in class with system monitoring as standard.



/ Module Manager

/ PC board  
replacement concept

/ Mounting system



/ Ventilation concept



/ 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	3,840 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
Min. input voltage ( $U_{dc \min}$ )			350 V		
Feed-in start voltage ( $U_{dc \text{ start}}$ )			350 V		
Nominal input voltage ( $U_{dc,r}$ )			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		

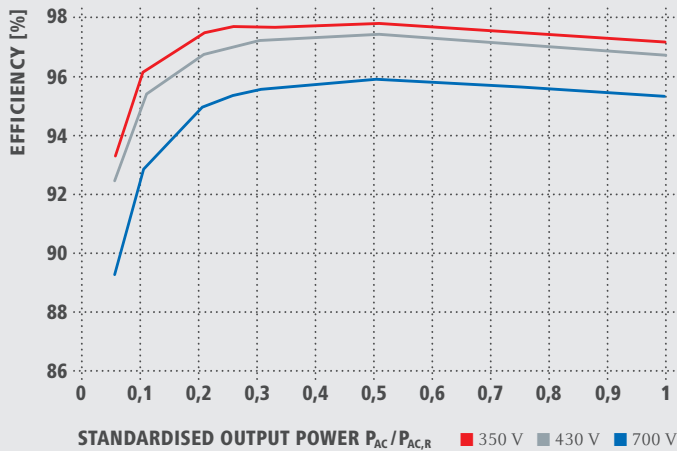
OUTPUT DATA	IG TL 3.0	IG TL 3.6	IG TL 4.0	IG TL 4.6	IG TL 5.0
AC nominal output ( $P_{ac,r}$ )	3,000 W	3,680 W	4,000 W	4,600 W	4,600 W <sup>1)</sup> / 5,000 W
Max. output power	3,000 W	3,680 W	4,000 W	4,600 W	5,000 W
Max. output current ( $I_{ac \max}$ )	13.0 A	16.0 A	17.4 A	20.0 A	21.7 A
Grid connection ( $U_{ac,r}$ )			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 ( $\cos \varphi_{ac,r}$ )			1		

<sup>1)</sup> Fronius IG TL 5.0 devices destined for Germany, Austria, Belgium and the Czech Republic have an AC nominal output of 4,600 W.

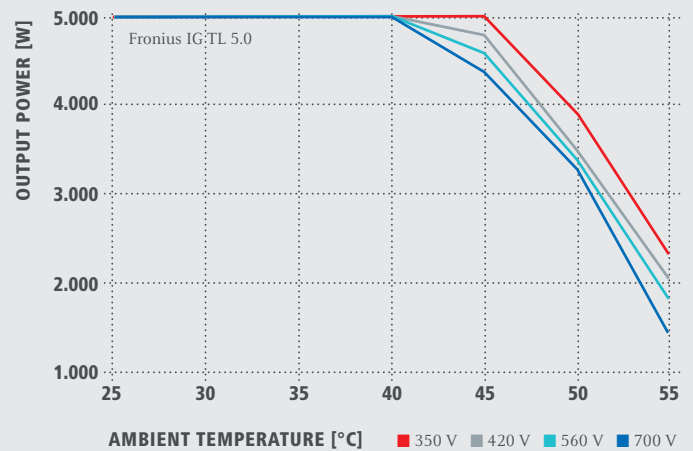
GENERAL DATA	IG TL 3.0	IG TL 3.6	IG TL 4.0	IG TL 4.6	IG TL 5.0
Dimensions (height x width x depth)			597 x 413 x 195 mm		
Weight			19.1 kg		
Degree of protection			IP 55 <sup>2)</sup>		
Protection class			1		
Overvoltage category (DC / AC)			2 / 3		
Night-time consumption			< 1 W		
Inverter concept			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 <sup>2</sup> – 16 mm <sup>2</sup>		
AC connection technology			Screw terminal connection 2.5 mm <sup>2</sup> – 16 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>2)</sup> Please refer to the information in the operating instructions regarding correct installation of the inverter.

## FRONIUS IG TL 5.0 EFFICIENCY CURVE



## FRONIUS IG TL 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 ( $\eta_{EU}$ )	97.1 %	97.2 %	97.3 %	97.3 %	97.3 %
$\eta$ at 5% $P_{AC,R}^{(3)}$	92.1 / 87.8 %	92.6 / 88.3 %	92.9 / 88.6 %	93.1 / 89.1 %	93.4 / 89.4 %
$\eta$ at 10% $P_{AC,R}^{(3)}$	94.2 / 90.2 %	95.3 / 91.2 %	95.7 / 91.8 %	96.0 / 92.6 %	96.1 / 92.9 %
$\eta$ at 20% $P_{AC,R}^{(3)}$	96.6 / 93.6 %	96.9 / 94.2 %	97.2 / 94.5 %	97.3 / 94.8 %	97.4 / 94.9 %
$\eta$ at 25% $P_{AC,R}^{(3)}$	97.0 / 94.3 %	97.2 / 94.7 %	97.4 / 94.9 %	97.5 / 95.2 %	97.6 / 95.3 %
$\eta$ at 30% $P_{AC,R}^{(3)}$	97.3 / 94.7 %	97.4 / 95.1 %	97.5 / 95.2 %	97.6 / 95.4 %	97.6 / 95.5 %
$\eta$ at 50% $P_{AC,R}^{(3)}$	97.6 / 95.5 %	97.6 / 95.7 %	97.7 / 95.7 %	97.7 / 95.8 %	97.7 / 95.8 %
$\eta$ at 75% $P_{AC,R}^{(3)}$	97.6 / 95.8 %	97.6 / 95.8 %	97.5 / 95.7 %	97.4 / 95.7 %	97.4 / 95.6 %
$\eta$ at 100% $P_{AC,R}^{(3)}$	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 %		

<sup>3)</sup> and at  $U_{MPP\ min} / U_{MPP\ max}$

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 <sup>4)</sup> 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		
Two RJ45 sockets (RS485)			Fronius Solar Net interface, interface protocol		

<sup>4)</sup> Please refer to the information in the operating instructions regarding the use of USB sticks (temperature range).

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