

Conergy IPG S series

These power packs for grid-connected photovoltaic systems are available for the 3, 4 and 5 kW power classes. They are designed for small to medium-sized systems and can be combined with all usual module types. Outstanding peak efficiency factors, patented technology and high-quality workmanship make them a reliable choice for permanently high system yields. This is ideally complemented by simple operation and comprehensive warranty and servicing options.



For high system yields and long service life

- | **Best yield:** up to 97.7 % maximum efficiency factor and up to 97 % European efficiency factor
- | **Always providing the optimum yield in variable irradiation conditions:** split second MPP tracking
- | **Long service life** thanks to high-quality manufacturing and PowerCool cooling concept
- | **Investment security** thanks to 5-year product warranty (optionally extendable)

For flexible planning and easy installation

- | **Flexible module connection** thanks to an exceptionally large input voltage range
- | **Time and cost savings:** systems with an output of up to 5 kWp can be implemented with only one string
- | **Reliable installation** even in challenging ambient conditions thanks to the protection category IP 65
- | **Optimum commissioning process** and easy on-site customer service thanks to the Service Tool

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	Conergy IPG 3 S	Conergy IPG 4 S	Conergy IPG 5 S
Input side (PV-Generator)			
Recommended solar generator connected load (STC)	3.2 kW	4.3 kW	5 kW
Maximum input voltage (V_{dcmax})	940 V	940 V	940 V
Minimum input voltage (V_{dcmin})	250 V	250 V	275 V
Start-up input voltage ($V_{dcstart}$)	220 V	220 V	220 V
Rated input voltage ($V_{dc,r}$)	700 V	700 V	700 V
Maximum MPP voltage (V_{mppmax})	750 V	750 V	750 V
Minimum MPP voltage (V_{mppmin})	250 V	250 V	275 V
Maximum input current (I_{dcmax})	19 A	19 A	19 A
Start-up power	25 W _{dc}	25 W _{dc}	25 W _{dc}
MPP tracker	1	1	1
DC input	Connector, MCIV compatible (4 mm ² included in delivery, max. 10 mm ² possible)		
Number of DC inputs	1	1	1
MPP accuracy	> 99 %	> 99 %	> 99 %
Output side (Grid connection)			
Rated grid voltage ($V_{ac,r}$)	230 V	230 V	230 V
Maximum grid voltage (V_{acmax}) ¹	264.5 V	264.5 V	264.5 V
Minimum grid voltage (V_{acmin}) ¹	184 V	184 V	184 V
Maximum output current (I_{acmax})	14 A	19 A	22 A
Rated power ($P_{ac,r}$)	3 kW	4 kW	4,6 kW
Maximum power (P_{acmax})	3 kW	4 kW	5 kW
Rated frequency (f_r)	50 Hz	50 Hz	50 Hz
Maximum frequency (f_{max}) ¹	50.2 Hz	50.2 Hz	50.2 Hz
Minimum frequency (f_{min}) ¹	47.5 Hz	47.5 Hz	47.5 Hz
Cos Phi	1	1	1
Required grid type	TN grid/TT grid	TN grid/TT grid	TN grid/TT grid
Output current distortion (at rated power)	≤ 3 %	≤ 3 %	≤ 3 %
Output terminals	Connector included in delivery (flexible cable with a maximum of 6 mm ² in diameter)		
Feed in type	Single-phase	Single-phase	Single-phase
Stand-by consumption/nighttime consumption	0.2 W	0.2 W	0.2 W
Efficiency factor			
Maximum efficiency factor	97.5 %	97.6 %	97.7 %
European efficiency factor	96.4 %	96.8 %	97.0 %
Cooling			
Cooling type	PowerCool	PowerCool with temperature regulated fan	

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Environment requirements			
Ambient temperature	–20° C/+60° C	–20° C/+60° C	–20° C/+60° C
Maximum temperature for lasting rated power	+50° C	+50° C	+50° C
Relative humidity (not-condensing)	0 – 95 %	0 – 95 %	0 – 95 %
Installation altitude	≤ 2.000 m	≤ 2.000 m	≤ 2.000 m
Site of installation	indoor/outdoor	indoor/outdoor	indoor/outdoor
Protection/Safety			
Protection type	IP 65		
Protection class	Class I, after IEC 62103		
Ground fault monitoring	Yes (isolation measurement + RCD type B)		
Over load behaviour	Working point adjustment		
Over temperature behaviour	Derating		
Surge protection PV input	Varistors (Overload protection type 3)		
Surge protection AC output	Varistors (Overload protection type 3)		
Leckage current switch type B integrated	Yes		
DC load disconnecter	Yes		
Grid monitoring			
Delay time after grid failure ¹	60 seconds		
Trip time ¹	< 200 milliseconds		
Grid monitoring meets the requirements	VDE 0126-1-1 Germany, France, Greece, Benelux, RD 1663 Spain, DK 5940 Italy; others on demand		
Dimensions/Weight			
Dimensions in mm (W x H x D)	390 x 675 x 229		
Weight	22 kg		
Conformity			
Transient emissions (EMC)	DIN EN 61000-6-3:2007-09		
Interference resistance (EMV)	DIN EN 61000-6-2:2006-03		
Grid quality	IEC 61000-3-2 /-3-12 (harmonics); IEC 61000-3-3 / -3-11 (flicker)		
Equipment reliability	IEC 62109-1:2003, IEC 62109-2:2005, IEC 62103:2003 and DIN EN 50178:1998		
CE conformity	Yes		
GS approval	Yes		
Other			
Display	LCD		
Communication interface	CAN		
Topology	Transformerless		
Warranty	5 Years, optional prolongable		

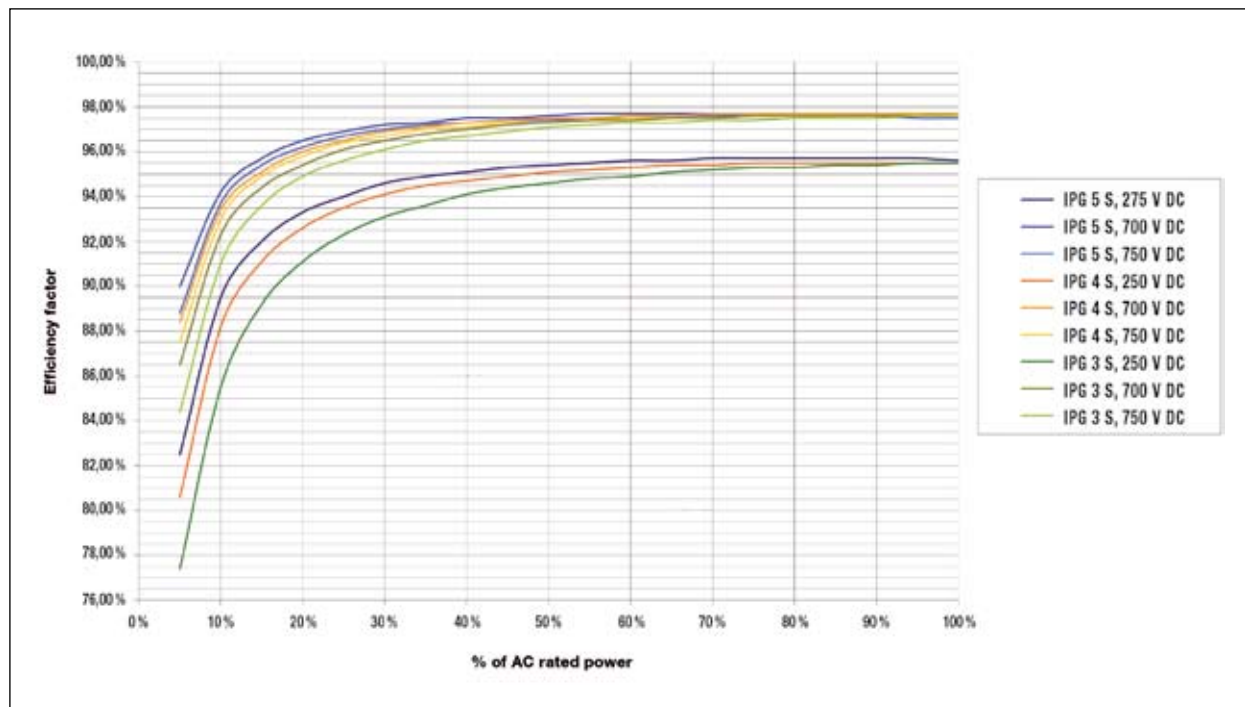
¹ Values for Germany; values vary according to country setting.



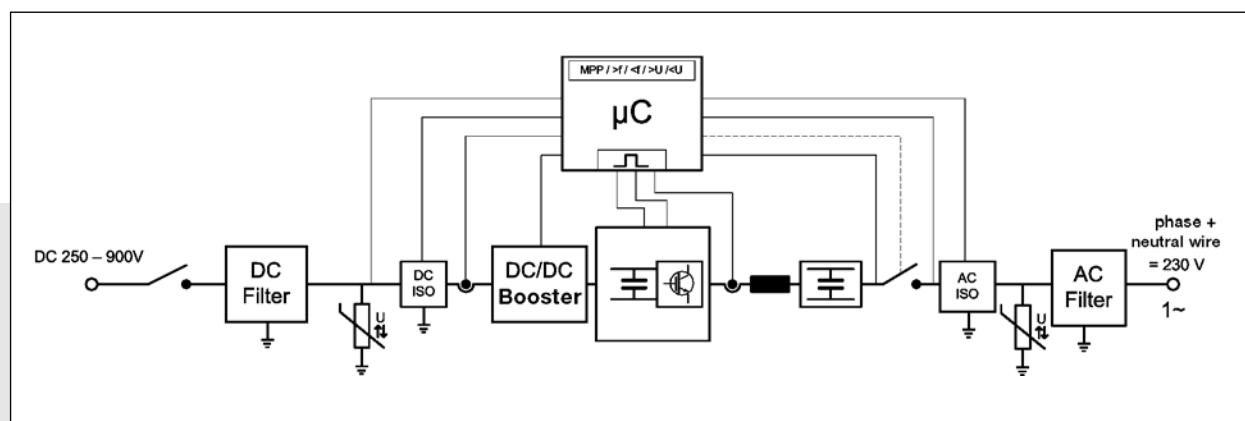
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Efficiency curves with different input voltages



Internal layout



Comparison of solar generator terminal voltages at different input voltages

SG voltage V_{SG}	V_{+SG}	V_{-SG}
250V	+350V	+100V
350V	+350V	0V
500V	+350V	-150V
650V	+350V	-300V
750V	+375V	-375V

Supplier: