



CONERGY

# 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

# Conergy IPG S series

	Conergy IPG 3 S	Conergy IPG 4 S	Conergy IPG 5 S
<b>Input side (PV-Generator)</b>			
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 <sub>dc</sub>	25 W <sub>dc</sub>	25 W <sub>dc</sub>
MPP tracker	1	1	1
DC input	Connector, MCIV compatible (4 mm <sup>2</sup> included in delivery, max. 10 mm <sup>2</sup> possible)		
Number of DC inputs	1	1	1
MPP accuracy	> 99%	> 99%	> 99%
<b>Output side (Grid connection)</b>			
Rated grid voltage ( $V_{ac,r}$ )	230 V	230 V	230 V
Maximum grid voltage ( $V_{acmax}$ ) <sup>1</sup>	264.5 V	264.5 V	264.5 V
Minimum grid voltage ( $V_{acmin}$ ) <sup>1</sup>	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 <sub>r</sub> )	50 Hz	50 Hz	50 Hz
Maximum frequency (f <sub>max</sub> ) <sup>1</sup>	50.2 Hz	50.2 Hz	50.2 Hz
Minimum frequency (f <sub>min</sub> ) <sup>1</sup>	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 <sup>2</sup> 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
<b>Efficiency factor</b>			
Maximum efficiency factor	97.5%	97.6%	97.7%
European efficiency factor	96.4%	96.8%	97.0%
<b>Cooling</b>			
Cooling type	PowerCool	PowerCool with temperature regulated fan	

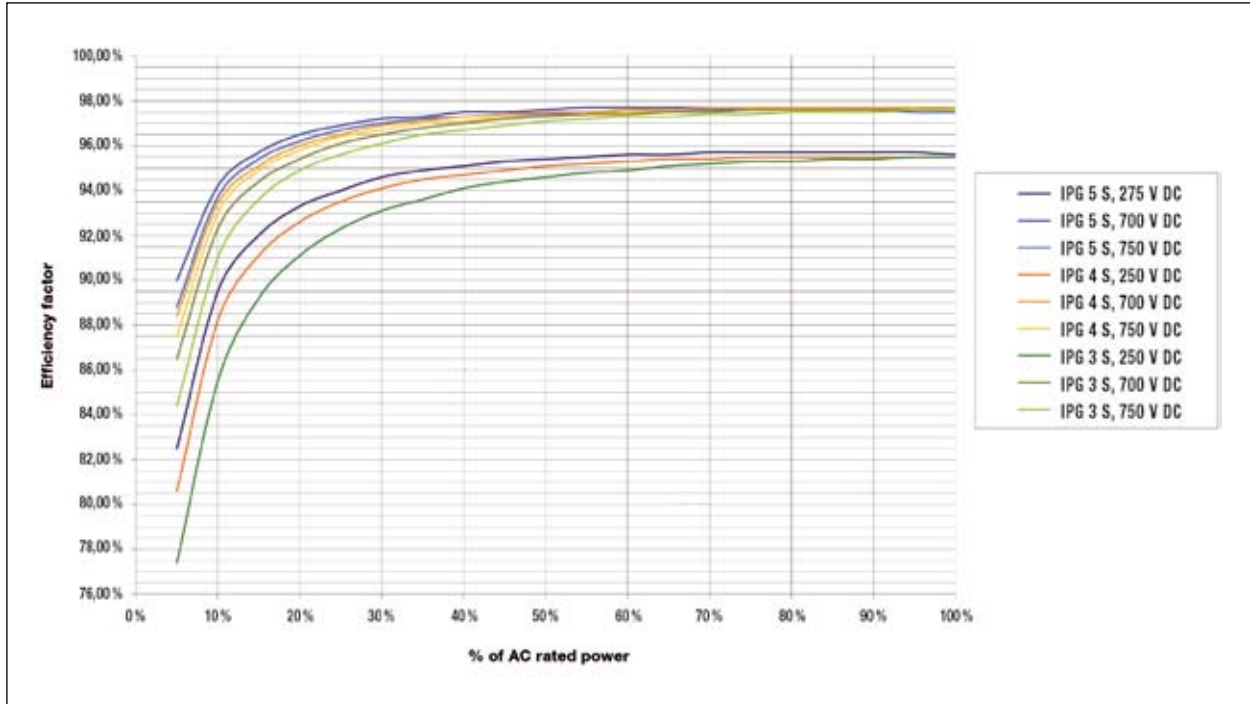
	Conergy IPG 3 S	Conergy IPG 4 S	Conergy IPG 5 S
<b>Environment requirements</b>			
<b>Ambient temperature</b>	-20° C/+60° C	-20° C/+60° C	-20° C/+60° C
<b>Maximum temperature for lasting rated power</b>	+50° C	+50° C	+50° C
<b>Relative humidity (not-condensing)</b>	0 – 95 %	0 – 95 %	0 – 95 %
<b>Installation altitude</b>	≤ 2.000 m	≤ 2.000 m	≤ 2.000 m
<b>Site of installation</b>	indoor/outdoor	indoor/outdoor	indoor/outdoor
<b>Protection/Safety</b>			
<b>Protection type</b>	IP 65		
<b>Protection class</b>	Class I, after IEC 62103		
<b>Ground fault monitoring</b>	Yes (isolation measurement + RCD type B)		
<b>Over load behaviour</b>	Working point adjustment		
<b>Over temperature behaviour</b>	Derating		
<b>Surge protection PV input</b>	Varistors (Overload protection type 3)		
<b>Surge protection AC output</b>	Varistors (Overload protection type 3)		
<b>Leckage current switch type B integrated</b>	Yes		
<b>DC load disconnecter</b>	Yes		
<b>Grid monitoring</b>			
<b>Delay time after grid failure<sup>1</sup></b>	60 seconds		
<b>Trip time<sup>1</sup></b>	< 200 milliseconds		
<b>Grid monitoring meets the requirements</b>	VDE 0126-1-1 Germany, France, Greece, Benelux, RD 1663 Spain, DK 5940 Italy; others on demand		
<b>Dimensions/Weight</b>			
<b>Dimensions in mm (W x H x D)</b>	390 x 675 x 229		
<b>Weight</b>	22 kg		
<b>Conformity</b>			
<b>Transient emissions (EMC)</b>	DIN EN 61000-6-3:2007-09		
<b>Interference resistance (EMV)</b>	DIN EN 61000-6-2:2006-03		
<b>Grid quality</b>	IEC 61000-3-2 /-3-12 (harmonics); IEC 61000-3-3 / -3-11 (flicker)		
<b>Equipment reliability</b>	IEC 62109-1:2003, IEC 62109-2:2005, IEC 62103:2003 and DIN EN 50178:1998		
<b>CE conformity</b>	Yes		
<b>GS approval</b>	Yes		
<b>Other</b>			
<b>Display</b>	LCD		
<b>Communication interface</b>	CAN		
<b>Topology</b>	Transformerless		
<b>Warranty</b>	5 Years, optional prolongable		

<sup>1</sup> Values for Germany; values vary according to country setting.

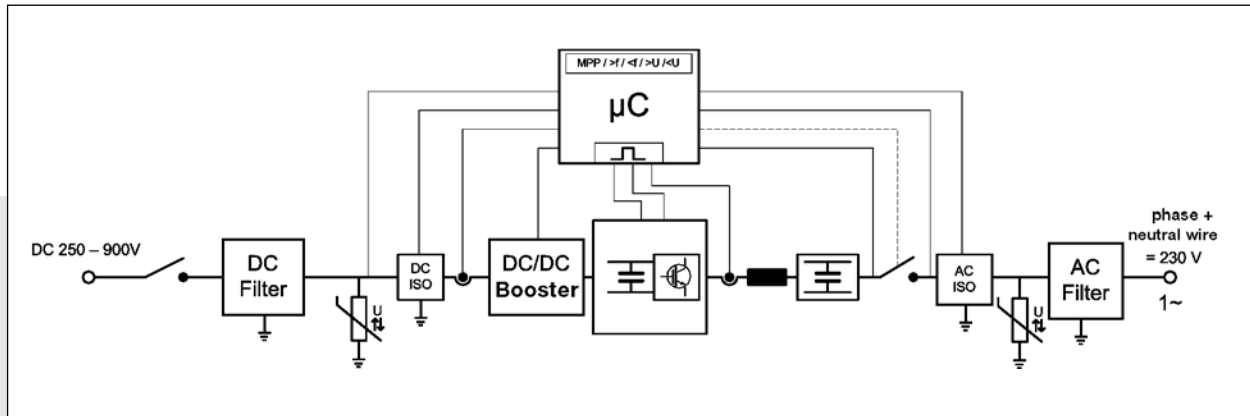


# Conergy IPG S series

## 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: