

Together we can  
make a difference.<sup>SM</sup>



## **Origin3400**

Your Origin system will be supplied with the following inverters:

- Clenergy
- Fronius

Please note the inverter supplied with your solar system is AS4777 accredited.

The choice of inverter will be at the **sole discretion** of our installer subject to such matters as stock availability.

Please see the following specification sheet for further details and inverter specifications.

# SolarPowerHouse Grid Connected Inverters



## Performance

- 94%-96% Efficiency
- Wide Input Range
- Dual Processor
- Dual Stage Input Protection

## Connectivity

- RS232 and USB
- Field upgradeable
- Lan and wireless

## Reliability

- CEC Approved
- 5 years warranty
- IP65 for external mounting

## Options

- 10 Year Extended Warranty
- SNMP & RS485
- Zigbee interface
- Panorama Display

The Cleenergy SolarPowerHouse range of grid connected inverters provide the latest technology in a smart package. They are highly reliable and light weight. SolarPowerHouse inverters have a wide input range with a high efficiency. They are designed to be simple to install and maintenance free.

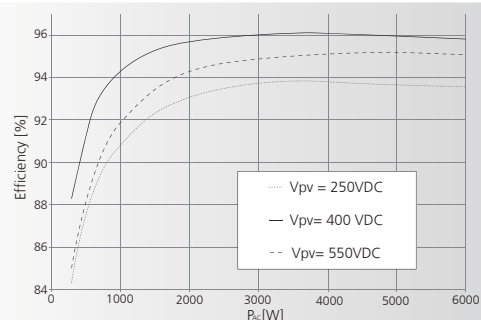
PV Input	SPH15	SPH20	SPH30	SPH40	SPH50	SPH60
Nominal DC Voltage	360 VDC	360 VDC	360 VDC	360 VDC	360 VDC	360 VDC
MPPT range	150 to 500VDC	150 to 500 VDC	150 to 500 VDC	150 to 500 VDC	150 to 600 VDC	150 to 600 VDC
Working range	100 to 500 VDC	100 to 500 VDC	100 to 500 VDC	100 to 500 VDC	100 to 600 VDC	100 to 600 VDC
Max PVO circuit voltage	550V DC	550V DC	550V DC	550V DC	600V DC	600V DC
Max. input current at 360DC	7.5A DC	10A DC	15A DC	20A DC	25A DC	30A DC
Max. input current	8.77A DC	11.57A DC	17.36A DC	20A DC	25A DC	30A DC
Max. input power.	1755W	2315W	3470W	4580W	5205W	6250W
<b>Grid Output</b>						
Nominal output power	1500W	2000W	3000W	4000W	5000W	6000W
Maximum output power	1650W	2200W	3300W	4400W	5000W	6000W
Operational voltage	190VAC to 270VAC	190VAC to 270VAC	190VAC to 270VAC	190VAC to 270VAC	190VAC to 270VAC	190VAC to 270VAC
Operational frequency	47-53 Hz	47-53 Hz	47-53 Hz	47-53 Hz	47-53 Hz	47-53 Hz
Current distortion	< 3%	< 3%	< 3%	< 3%	< 3%	< 3%
Power factor	>0.99	>0.99	>0.99	>0.99	>0.99	>0.99
Max. efficiency	>94%	>95%	>95%	>96%	>96%	>96%
Max. efficiency (Euro)	>93%	>94%	>94%	>95%	>95%	>95%
<b>Environment</b>						
Protection degree	IP65	IP65	IP65	IP65	IP65	IP65
Operation temperature	-25 to 55° C	-25 to 55° C	-25 to 55° C	-25 to 55° C	-25 to 55° C	-25 to 55° C
Humidity (0 to 95%)	non-condensing	non-condensing	non-condensing	non-condensing	non-condensing	non-condensing
Heat dissipation	Convection	Convection	Convection	Convection	Fan Assisted	Fan Assisted
Acoustic noise level	<40dB, A- weighted	<40dB, A- weighted	<40dB, A- weighted	<40dB, A- weighted	<40dB, A- weighted	<40dB, A- weighted
<b>Communication</b>						
Comm. Interface	RS232 & USB	RS232 & USB	RS232 & USB	RS232 & USB	RS232 & USB	RS232 & USB
Optional	SNMP & RS485	SNMP & RS485	SNMP & RS485	SNMP & RS485	SNMP & RS485	SNMP & RS485
FW upgrade	Yes, via RS232	Yes, via RS232	Yes, via RS232	Yes, via RS232	Yes, via RS232	Yes, via RS232
<b>Technology</b>						
Transformeless	Yes	Yes	Yes	Yes	Yes	Yes
Waveform	Sine PWM	Sine PWM	Sine PWM	Sine PWM	Sine PWM	Sine PWM
<b>Mechanical</b>						
HxWxD (mm)	362x312x131	362x312x131	362x312x141	384x464x131	515x464x142	515x464x142
Weight (kg)	14	14	14	21	27	27

Lab:



Certificate:

AS3100  
AS4777





# FRONIUS **IG** PV Inverter

## Technical data sheet

- + An informative display for monitoring all system functions.
- + Quick and easy installation.
- + Maximum reliability.
- + High Frequency Transformer Technology offers maximum output in minimum space.
- + The Intelligent Module-Manager's™ process optimises yields.
- + The MIX™ Concept increases energy yields in the part load area.
- + FRONIUS IG DatCom components offer a reliable and simple visualisation and monitoring.



POWERING YOUR FUTURE



## OVERVIEW OF THE FRONIUS IG FAMILY

### FRONIUS IG. The Reliable PV Inverter Series.

The FRONIUS IG series has proven itself to be powerful, user-friendly and highly reliable in a compact format. Equipped for every size of system, the combination of different types available for selection is limitless. The ingenious processor control combined with the powerful HF transformer extracts the maximum energy yield from all types of modules.

### FRONIUS IG 60 HV. The Powerhouse.

Higher yield due to work-sharing is achieved by linking the two power circuits using the MIX™ concept, our optimised master-slave system. In the part-load range only one of the two power stage sets operates, while both work together at full-load. The advantages are a noticeable increase in yield with a simultaneous reduction in operating wear.

### FRONIUS IG Outdoors. The Weatherproof IG.

The FRONIUS IG Outdoors has been created specially for use in the open air and has been tested to an IP45 degree of protection. This ensures a continuous circulation of air that prevents condensate from collecting. The IG is also protected against the ingress of solid foreign bodies and hose water. It is also reliable and safe to use near the sea due to a special protective coating applied to the printed circuit boards within the inverter.

## TECHNICAL DETAILS.

It goes without saying that every FRONIUS IG complies with all the obligatory guidelines and standards of each country. More in-depth information and certificates may be viewed at [www.fronius.com](http://www.fronius.com) under "downloads". Of course, all FRONIUS IG bear the **CE** mark.

TECHNICAL DATA	FRONIUS IG 15	20	30	40	60 HV
MPP voltage range	150 - 400 V	150 - 400 V	150 - 400 V	150 - 400 V	150 - 400 V
Max. input voltage (at 1000 W/m <sup>2</sup> ; -10°C)	500 V	500 V	500 V	500 V	530 V
PV array output	1300 - 2000 Wp	1800 - 2700 Wp	2500 - 3600 Wp	3500 - 5500 Wp	4600 - 6700 Wp
Nominal output	1300 W	1800 W	2500 W	3500 W	4600 W
Max. power output	1500 W	2000 W	2650 W	4100 W	5000 W
Max. efficiency	94.2 %	94.3 %	94.3 %	94.3 %	94.3 %
Euro efficiency	91.4 %	92,3 %	92.7 %	93.5 %	93.5 %
Mains voltage/frequency	230 V / 50 Hz (60 Hz)				
Size (l x w x h)	366 x 344 x 220 mm (500 x 435 x 225 mm) 610 x 344 x 220 mm (733 x 435 x 225 mm)				
Weight	9 kg (12 kg)		16 kg (20 kg)		
Cooling	controlled forced-air cooling				
Housing variations	designer internal housing; optional outer housing				
Ambient temperature range	-20 ..... 50 °C				



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