

**Grid-Tied System**

ES 3000 AND ES 5000 ARE THE NEW POWERTRONIX SOLAR INVERTERS, AVAILABLE IN TWO POWER RATINGS: 3 kW AND 5 kW.

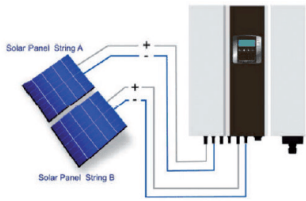
THESE INVERTERS ARE TRANSFORMER-LESS AND CONFIGURED AS SINGLE PHASE, WITH HIGH EFFICIENCY (96%) AND HIGH RELIABILITY.

ES 3000 AND ES 5000 SOLAR INVERTERS ARE EQUIPPED WITH AN LCD SCREEN TO EASILY ACCESS TO MAIN INFORMATIONS AND WITH A RS-232 PORT. AN EMPTY SLOT ALLOWS TO HAVE A WIDE RANGE OF COMMUNICATION EQUIPMENT, AS RS- 485, USB, TCP/IP OR RELAY CARD.

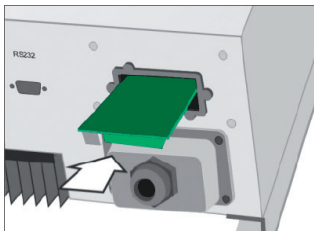
PROVIDED WITH INTELLIGENT MPP-TRACKING, UP TO 2 IN 5kW TYPE, THESE SOLAR INVERTERS WORK ALWAYS IN THE PV CELLS POINT WHERE THE VALUES OF THE CURRENT AND VOLTAGE RESULT IN A MAXIMUM POWER OUTPUT.

THANKS TO THEIR DUSTPROOF IP65 CABINET, THEY ARE SUITABLE TO OPERATE EITHER INDOOR OR OUTDOOR, IN A WIDE RANGE OF WORKING TEMPERATURE FROM -25 TO $+50$ °C

THEIR COMPACT DIMENSIONS AND LIGHT WEIGHT ALLOW AN EASY AND QUICK INSTALLATION IN A NEARLY UNLIMITED RANGE OF APPLICATIONS.


 Sample configuration:
 DC-connection clamp for one 2-String-PV-array

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 one 2-string-PV-array



Free slot for optional
 communication cards.



LCD Display



SOLAR LOG
 The remote diagnostic
 system for Powertronix
 ES inverters

MODEL	ES 3300		ES 5000	
INPUT	Nominal Voltage	360 VDC		
	Max. input voltage	500 VDC		
	Operating voltage	120VDC to 500VDC **		
	MPPT range	150 - 450 VDC		
	Max current (each MPPT)	22A	17.65A	
	Nr MPP trackers	1	2	
OUTPUT	Nominal Power	3000W	5000W	
	Maximum Power	3300W	5300W	
	Nominal Voltage	230 VAC adjustable on 200/208/220/230/240		
	Output connection form	1-phase, mains connection (L,N,PE)		
	Voltage range	184 - 264.5 VAC		
	Nominal current	13A	21.7A	
	Frequency	50 / 60 Hz, autoselect		
	Power Factor	> 0.99 with nominal AC		
	Harmonic distortion	Total harmonic distortion <5% Single harmonic distortion <3%		
	EFFICIENCY	Maximum Efficiency	> 96%	
EU Efficiency		> 94%		
CEC Efficiency		> 94%		
GENERALS	Operating Temperature	- 25° C ÷ + 50° C		
	Relative Humidity	0 to 90% w/o condensation		
	Audible Noise	< 45 dBA		
MECHANIC	Dimensions (DxWxH mm)	455 x 430 x 170	455 x 510 x 170	
	Weight (kg)	25	29	
	Enclosure	IP65 outdoor operating		
	Cooling	convection		
WARRANTY	Warranty	5 years		
COMMUNICATION	Standard	RS-232		
	Optional	USB, RS 485, potential free contact, TCP/IP		
	LCD	in/out voltage - in/out current - in/out current capacity - output frequency - energy output - inside temperature - cooling body temperature - status/ failure signal		
	LED	RED YELLOW GREEN	grounding failure or DC-input isolation failure supply conditions are not comply with input values of photovoltaic inverter solar cell is higher or lower than 5% of nominal capacity of the photovoltaic inverter	
	Keyboard	up/down button - function button - enter button		
SAFETY	Mains supply	over/under voltage, over/under frequency, grounding failure, DC input isolation failure, off-grid operation		
	Short circuit	AC input:input diode/electrical switching AC output:output relay/ electrical switching		
	EPO	Photovoltaic inverter switches off immediately		
	Over temperature	≤50°C at full power / ≥50°C at reduced power		
CERTIFICATION	Safety	Europe VDE0126-1-1, EN50178, IEC62103		
	EMI/EMC	EN61000-6-1 EN61000-6-2 EN61000-6-3 EN61000-6-4		

* No galvanic isolation ** Nominal range should be from 150VDC up to 500VDC to achieve the nominal capacity