Elpower

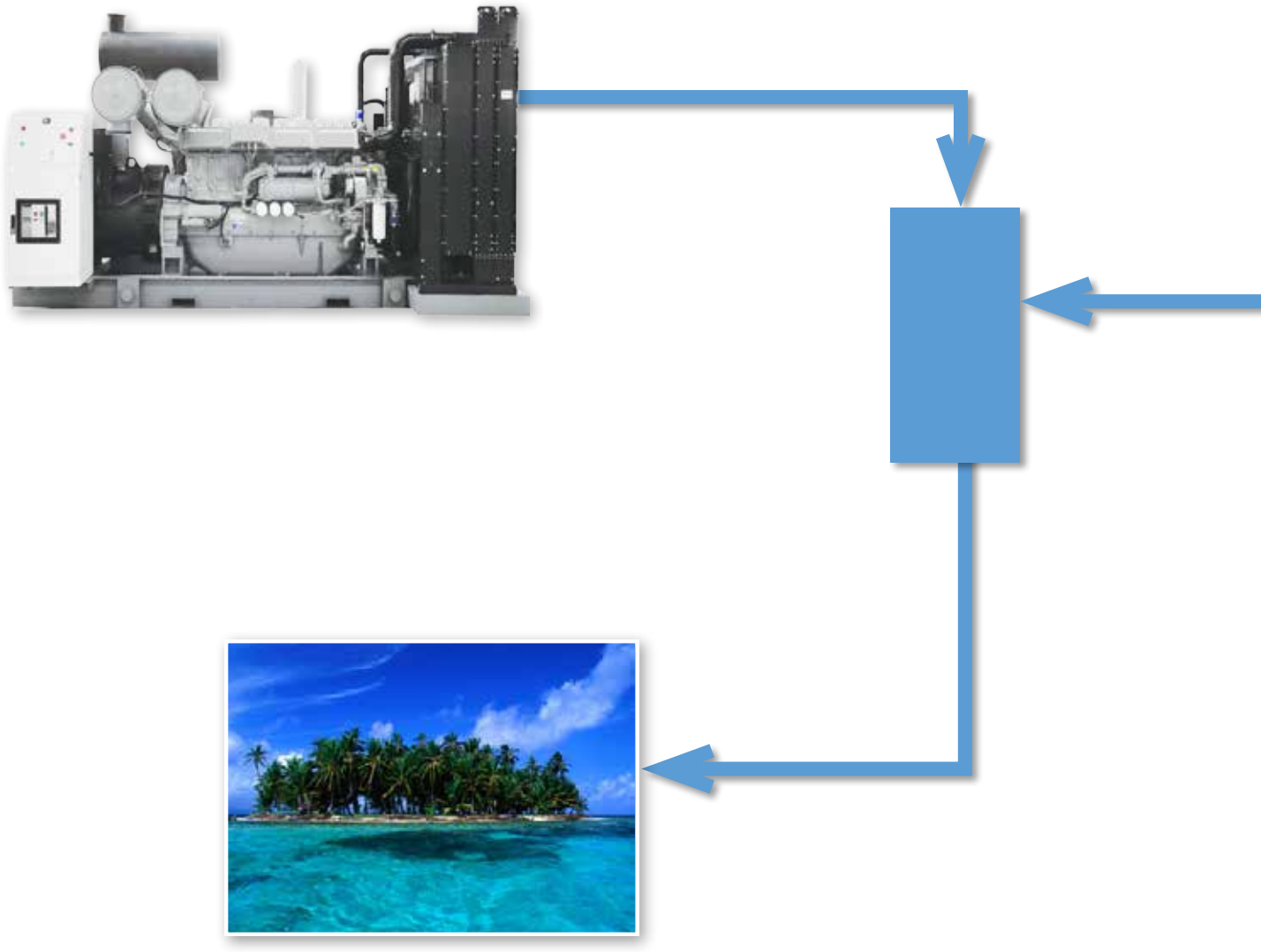
elettronica di potenza

Energy Storage

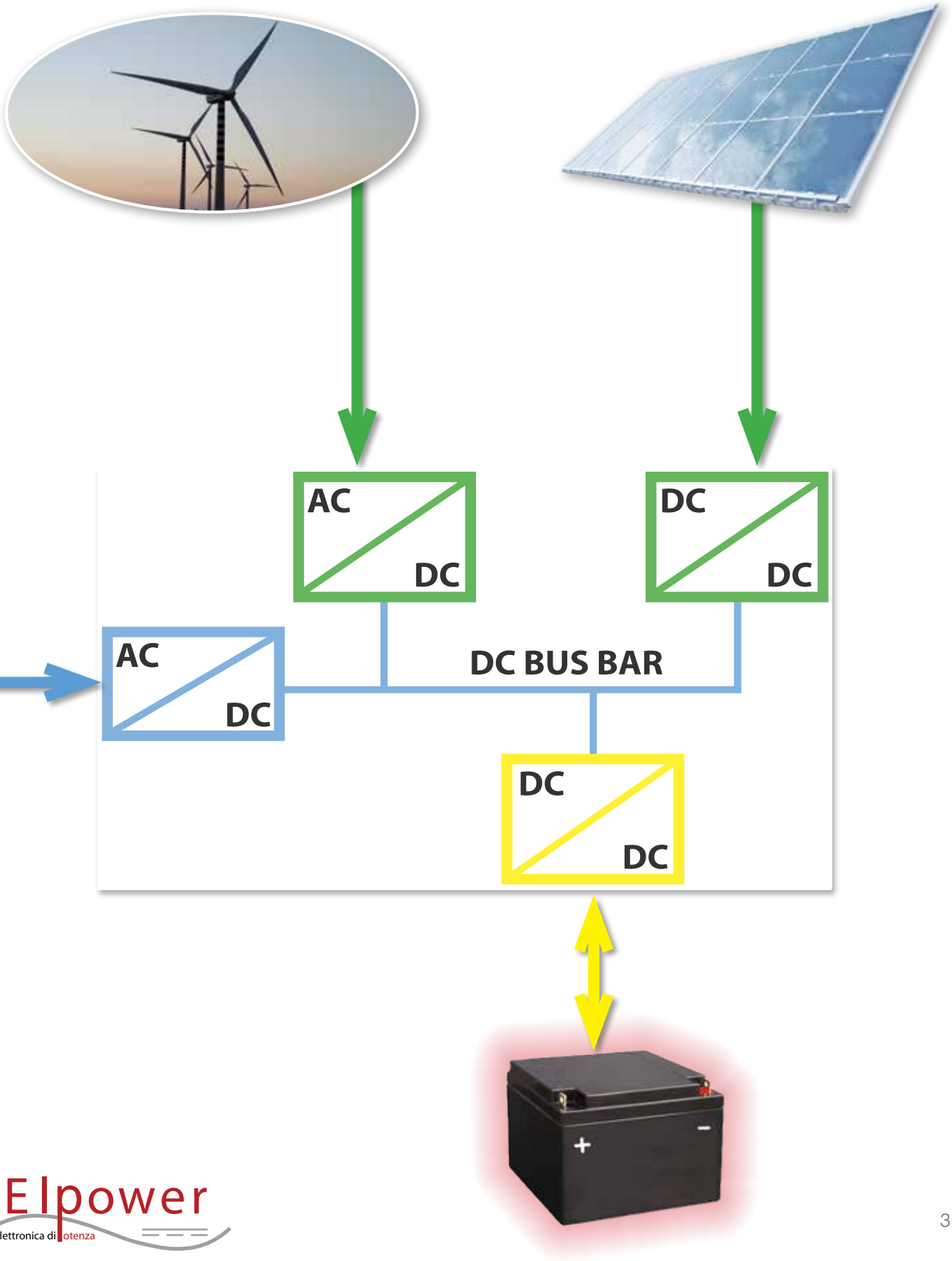
RENEWABLE SOURCES

Hybrid Island Grid Converter

Remote areas energy needs cannot be satisfied by a standard grid connected inverter.
From this simple consideration was born our Hybrid Island Grid Converter Cleanisland, a system designed specifically for remote area and weak grid renewable energy applications with energy storage capability.
Coming from our experience in small and medium range grid connected wind and PV converter Cleanisland family combines the attention to performances typical of a grid connected inverter with the flexibility of a grid forming device.
With a power range between 30 kW and 210 kW Hybrid Island Grid Converter is ideal for applications with different energy sources and energy storage capability.
Cleanisland allow also remote monitoring via a dedicated optional PC embedded device with oscilloscope capability.
This feature permit to monitor not only main parameters and converter's real time data but also to have a clear picture of local grid status, battery status and to recall historic data from converter back up memory.

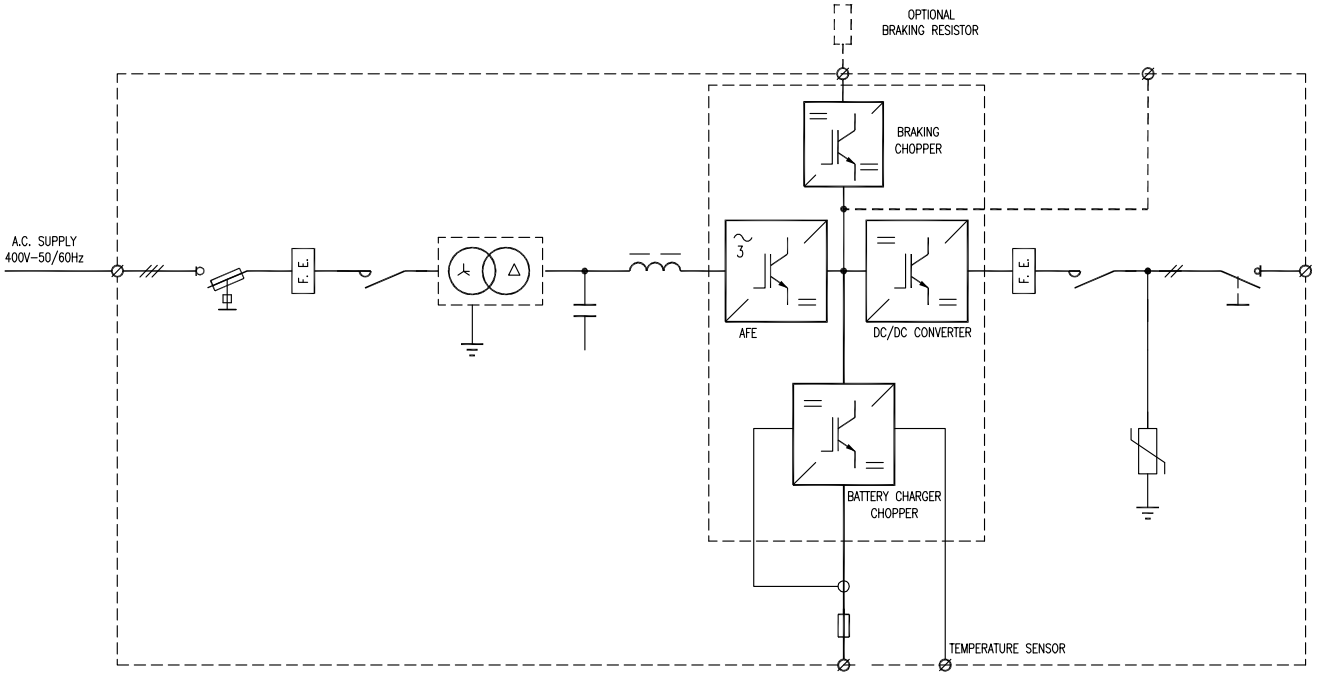


Hybrid Island Grid Converter



Hybrid Island Grid Converter

our technology for your business



CLEANISLAND

		30 kW	40 kW	60 kW	80 kW
Input side	**Unit**	**Value**			
PV plant peak power	kWp	36	48	72	96
Maximum Input current	Adc	60	80	120	160
Max input voltage	Vdc	900 (1000 optional)			
MPPT range	Vdc	500 - 800			
Wind turbine converter	-	Optional			
Output Side	**Unit**	**Value**			
Grid Voltage	Vac	400 - 3 phase (with insulation transformer)			
Rated battery current (charging)	A	100	135	200	270
Battery power	kWh	30	40	60	80
Battery protection	-	Yes - DC rated fuses			
Breaking resistor	-	Yes (optional)			
Mechanical data	**Unit**	**Value**			
Dimensions (LxDxH)	mm	800 x 800 x 1700			
Weight	kg	400	500	650	750
Protection degree	IP	54			
Environmental data	**Unit**	**Value**			
Ambient operating temperature (*)	°C	-20 ÷ + 55			
Relative Humidity (non condensing)	%	< 95			
Altitude a.s.l. (**)	m	2000			
Efficiency	**Unit**	**Value**			
Maximum efficiency	%	95,3			
Auxiliary power supply	Vdc	24			
Auxiliary power consumption (stand by)	W	100 (30)			
Communication Interface	**Unit**	**Value**			
Standard Protocol (RS 232 / RS485)		Modbus			
Supervising Protocol (with embedded PC)		Ethernet (Optional)			
Digital interface	N°	1 Input / 4 Output			
Analog Interface	N°	2 Input / 2 Output			
Standards / Certifications	**Unit**	**Value**			
Safety (low voltage directive)		2006/95/EC (CE mark)			
Overload protection		Yes			

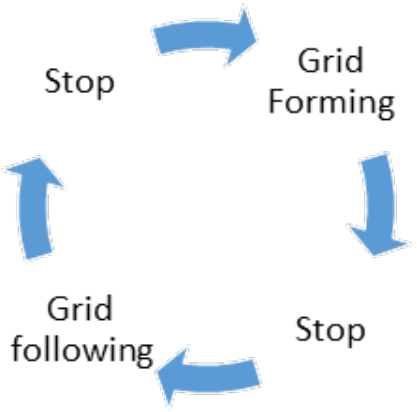
(*) Full power till 50 °C (**) De-rating will apply above 2000 m a.s.l. Specification subject to change without notice

Hybrid Island Grid Converter

CLEANISLAND is a DSP (Digital Signal Processor) based converter system, specifically designed for off grid applications. CLEANISLAND converter basically present two working modes:

a) Grid Following – in this working mode the converter is used as a standard grid tied inverter to connect an Energy Storage System to a local grid with the capability of charging the batteries and / or to support the local grid in feeding the loads.
b) Grid Forming – in this working mode the converter become the master grid generator; it feeds the loads taking energy from the batteries and / or from renewable energy resources time by time available.

The switch between two working mode described above happens with a passage through a stop condition:



CLEANISLAND

		130 kW	170 kW	210 kW
Input side	**Unit**	**Value**		
PV plant peak power	kWp	150	200	250
Maximum Input current	Adc	260	340	420
Max input voltage	Vdc	900 (1000 optional)		
MPPT range	Vdc	500 - 800		
Wind turbine converter	-	Optional		
Output Side	**Unit**	**Value**		
Output voltage	Vac	400 - 3 phase (external transformer required)		
Rated battery current (charging)	A	435	570	700
Battery power	kWh	130	170	210
Battery protection	-	Yes - DC rated fuses		
Breaking resistor	-	Yes (optional)		
Mechanical data	**Unit**	**Value**		
Dimensions (LxDxH)	mm	1400 x 800 x 2100		
Weight	kg	1200	1400	1500
Protection degree	IP	30		
Environmental data	**Unit**	**Value**		
Ambient operating temperature (*)	°C	-20 ÷ + 55		
Relative Humidity (non condensing)	%	< 95		
Altitude a.s.l. (**)	m	2000		
Efficiency	**Unit**	**Value**		
Maximum efficiency	%	97,5		
Auxiliary power supply	Vdc	24		
Auxiliary power consumption (stand by)	W	100 (30)		
Communication Interface	**Unit**	**Value**		
Standard Protocol (RS 232 / RS485)		Modbus		
Supervising Protocol (with embedded PC)		Ethernet (Optional)		
Digital interface	N°	1 Input / 4 Output		
Analog Interface	N°	2 Input / 2 Output		
Standards / Certifications	**Unit**	**Value**		
Safety (low voltage directive)		2006/95/EC (CE mark)		
Overload protection		Yes		

(*) Full power till 50 °C (**) De-rating will apply above 2000 m a.s.l. Specification subject to change without notice

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