



# Green to grid

## HYBRID POWER

**MOBILE & COMPACT UNINTERRUPTIBLE POWER SYSTEM (UPS)**

ERMA ENERGY develops and proposes multi energy solutions in electrical supply thanks to its exclusive management system *emie*.

Green to Grid (G2G) is a silent hybrid portable generator on a trailer ready to use, incorporating batteries and photovoltaic panels.

Green to Grid (G2G) also integrates a flexfuel genset (diesel, biodiesel and NATO fuels) starting automatically to generate electricity in case of high power requirement or battery recharge.

These three sources of energy are driven in a rational way by *emie* with the aim of optimising electricity production, adapting it to needs and saving costs.

ERMA ENERGY proposes two versions : Civil Premium and NATO, resistant for harsh conditions and effortless deployment.

Our system, with strengthened frame, allows implementation within 5 minutes.



**NEW TECHNOLOGY *emie***  
ENERGY MANAGEMENT SYSTEM BY ERMA  
Ensures the automated management of energy sources among themselves.



**SIMPLICITY**  
Plug and play system.  
Simple to use and connect.  
Plugs supplied.



**CONTINUITY**  
Uninterruptible Power Systems.  
Maintains and stabilizes the power supply.  
Fast switchover : lower than 20ms.



**QUIET**  
No noise in Hybrid Mode.  
Reduced noise with genset fairing.



**SAVING COSTS**  
OPEX Reduced (maintenance delayed).  
Reduction of fuel consumption.  
Reduction of supply risks.



**CERTIFICATION**  
CE certifications according to directives :  
EMC 2014/30/UE and  
LOW VOLTAGE 2014/35/UE.



**GREEN ENERGY**  
Priority given to solar energy.  
Excess of electricity stored in batteries.  
Reduction of CO<sub>2</sub> emissions : up to 100%.



**GREEN TO GRID**  
CIVIL NATO



**POWER**  
Up to 10,9kVA



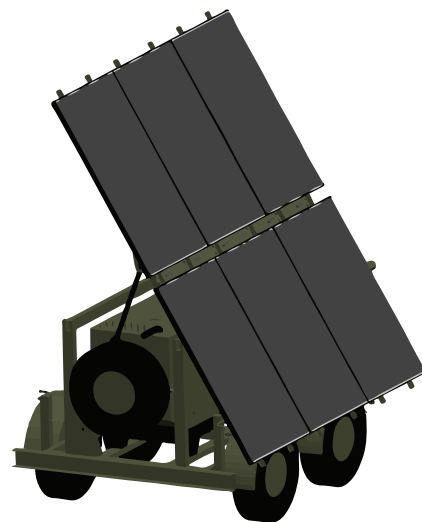
**SOLAR PANELS**  
1080Wp (STC)



**STORAGE**  
10kWh



**GENSET**  
6,5kVA



**POWER**  
Up to 16,2kVA



**SOLAR PANELS**  
2010Wp (STC)



**STORAGE**  
17kWh



**GENSET**  
9kVA

### APPLICATIONS

ISOLATED LIVING AREAS - HOUSES, SHEEPFOLDS, SMALL BUSINESSES  
ISOLATED SITES - TELECOM RELAY  
BUILDING AND CIVIL ENGINEERING ACTIVITIES - CUSTOMS - CROSSING POINTS  
EMERGENCY SERVICES - NGO, CIVIL SECURITY  
AGRICULTURAL IRRIGATION - EVENTS AND LIGHTING

ISOLATING LIVING & WORKING AREA - OFFICE CONTAINER, CAMP, POWERING TOOLS  
SECURITY - LIGHTNING, WATCHING, GUARDHOUSE, FORWARD POST, CROSSING POINT  
COMMUNICATION - ESTABLISHMENT & SUPERVISION, TELECOM RELAYS & ANTENNAS  
(AND ALL CIVIL APPLICATIONS)

## TECHNICAL SPECIFICATIONS

		CIVIL	NATO	
GENERAL	TYPE	HYBRID UNINTERRUPTIBLE POWER SYSTEMS		
	INCLUDED POWER SOURCES	GENSET - SOLAR PANELS - BATTERIES		
	ADDITIONAL POWER SOURCES	GRID - BACK-UP GENSET		
	MODE	HYBRID POWER	GENSET OR BATTERIES & SOLAR PANELS	
		FULL POWER	GENSET AND BATTERIES & SOLAR PANELS	
	CONTINUOUS FULL POWER - 25°C / 40°C	10,9kVA / 9,3kVA	16,2kVA / 14,2kVA	
	OPERATING TEMPERATURE RANGE	-20°C to +50°C		
	ENERGY MANAGEMENT SYSTEM	INTEGRATED	INTEGRATED - USER DEFINED MODE	
HUMAN-MACHINE INTERFACE	OPTIONAL EQUIPMENT	DISPLAY - LAN ACCESS		
INVERTER	TYPE	PURE SINUS - 230VAC SINGLE PHASE - 50Hz		
	CONTINUED HYBRID POWER - 25°C	5,0kVA	8,0kVA	
	CONTINUED HYBRID POWER - 40°C	4,3kVA	6,8kVA	
	PEAK POWER 130%/150%/200%	30min / 5s / 0,5s		
CHARGER	TYPE - MODE	BATTERY LIFE - BULK/ABSORPTION/FLOAT		
	SYSTEM VOLTAGE	24VDC	48VDC	
	CHARGE CURRENT	70A	110A	
	BATTERY TEMPERATURE SENSOR	YES		
BATTERY	TYPE	SEALED LEAD ACID	SEALED <b>PURE</b> LEAD ACID	
	DISPOSITION	2 BRANCHES OF 2 BLOCS	2 BRANCHES OF 4 BLOCS	
		TOTAL CAPACITY	400Ah	340Ah
	ENERGY	TOTAL	10kWh	17kWh
		AVAILABLE (CYCLING)	5kWh	10kWh
SOLAR	CHARGE CONTROLLER	MPPT		
	SOLAR PANEL	TYPE	60 CELLS - MONO - GLAS (COATED) / TEDLAR	60 CELLS - MONO - GLAS (COATED) / GLAS
		QUANTITY	4	6
		TOTAL POWER (STC)	1080Wp	2010Wp
	STRUCTURE	DEPLOYMENT	MANUAL	MANUAL & PNEUMATIC
		POSITION	2	SEVERAL
		MINI / MAXI	20° / 30°	0° to 60°
GENSET	TYPE - VOLTAGE - FREQUENCY	3000rpm - 230VAC SINGLE PHASE - 50Hz	1500rpm - 230VAC SINGLE PHASE - 50Hz	
	SOUND PRESSURE LEVEL	60dB (7m)	54dB (7m)	
	POWER	ESP / PRP (20°C)	6,5kVA / 5,9kVA	9kVA / 8,2kVA
		ESP / PRP (40°C)	5,8kVA / 5,3kVA	8,1kVA / 7,4kVA
	FUEL	GAZOLE - BIODIESEL	F-34, F-35, F-44, F-54, F-63 (+CIVIL FUELS)	
CONSUMPTION / TANK	1,8L (75%) / 27L	2,5L (75%) / 50L		
TRAILER	LIGHTING	TYPE - TENSION	HALOGEN BULB - 12V	LED - 12V/24V
		CONNECTING	13P/12V (ISO 11446)	15P/24V (ISO 12098) - 13P/12V (ISO 11446) 12P/24V (NATO) - STANDARD 7N 7S 24V
	MATERIALS	GALVANIZED STEEL AND ALUMINIUM		
	COLORS	BLACK - GREEN - GREY	IR/NATO 24x5 - BLACK	
	EMPTY / GROSS WEIGHT	850kg / 950kg	1300kg / 2700kg	
	OVERRUN DEVICE	STRAIGHT (350mm)	ADJUSTABLE (390mm to 1040mm)	
	DRAWBAR	COUPLING HEAD	NATO EYE	
	AXLE WITH BRAKES	1 (TORSION BAR)	2 (WITH SPRING AND SHOCK)	
	WHEEL	TYRE TYPE - USE - Qty	175/70R13 - ROAD ONLY - 2	7,50R16C - ALL-TERRAIN (LEVEL 7) - 4
		OTHER	REPAIR KIT	SPARE WHEEL
	HxWxL - DRIVE MODE (m)	1,8 x 2,2 x 2,8	1,8 x 2,6 x 5	
	H x W x L - PRODUCTION MODE (m)	2,0 x 2,2 x 3,0	1,8 x 3,8 x 5,0 (0°) - 3,8 x 2,6 x 5,0 (60°)	
	FLOOR HEIGHT (m)	0,25	0,41	
	CERTIFICATION	DREAL APPROVAL FOR ROAD USE & CE CERTIFICATION		
		EU DIRECTIVE	2014/35/EU (Low Voltage) - 2014/30/EU (EMC) - 2006/42/EC (MACHINERY)	
STANDARDS		IEC 62040-1 & IEC62040-2 : UNINTERRUPTIBLE POWER SYSTEMS		
		IEC 60950-1 : INFORMATION TECHNOLOGY EQUIPMENT		
		IEC 60204-1 : SAFETY OF MACHINERY		
		NF C15-100 : LOW VOLTAGE ELECTRICAL INSTALLATIONS		
UTE C15-712 : PHOTOVOLTAIC INSTALLATIONS				
GUARANTEE	TRAILER AND STRUCTURE	12 MONTHS	24 MONTHS	
	GENSET	12 MONTHS (or 500h)	24 MONTHS (or 1000h)	
	BATTERIES	12 MONTHS	24 MONTHS	
	CHARGE CONTROLLER - INVERTER - CHARGER	12 MONTHS	60 MONTHS	
	SOLAR PANELS	12 MONTHS	60 MONTHS	