100% MADE IN ITALY

GSE Storage™

PHOTOVOLTAIC UPS STORAGE

230V SINGLE-PHASE
4-6 kW

400V THREE-PHASE
12-20 kW

Since 1995
PREMEL srl
integrated energy systems

20 1995 2015
TWENTY YEARS OF INNOVATION

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1995 2015 TWENTY YEARS OF INNOVATION

The Italian company Premel represents the innovative balance between artisanal quality and avant-garde technology. Since 1995, Premel has been developing integrated systems for energy efficiency and production from renewable sources, even in absence of grid power.
This concept of independent production and use of energy has been defined "punctiform distribution".

Premel plans, produces, and installs integrated and modular systems for independent production and use of electricity, hygienic hot water, LED light, and water treatment and purification, using above all renewable sources of energy, such as solar, wind, and hydro.

Premel installed its products in many countries in addition to Europe, in Africa and South America, from the Sahara desert to the Amazon Rainforest. This has been possible thanks to the unique qualities of Premel products, including their technological innovation, artisanal quality, reliability, modularity, ease of installation, and synergy with leading companies in specific production sectors.

GSE Storage™

PHOTOVOLTAIC UPS STORAGE

- Over **20 years experience** with storage systems
- **Electric flow unchanged**
- **Stores all the energy produced**
- A single product with **four configurations**
- Innovative technology **plug-in**
- **Adaptable** to all needs
- Reserved **web area**

GSE Storage™ 4.07 - 4.15 - 6.15 RA/A/R

MAIN FEATURES

The integrated GSE Storage™ system enable to cumulate all the electricity produced in excess by the photovoltaic system, in order to use it at any time, 24 hours a day, even in absence of grid power.

While it is distributing the stored energy, the GSE Storage™ isolates the user from the grid. The switch time of 10 ms (UPS mod.) is short enough that it doesn't interrupt the functioning of any kind of household appliance or electric system, including informatics and domotics. Insertion is automatic according to the load and at 0 W consumption in stand-by. GSE Storage™ is extremely flexible and allows you to connect multiple auxiliary generating inputs, such as: photovoltaic, wind, cogeneration, and hydroelectric, as well as controls for emergency motor-generators.

Stainless steel AISI430 cabinets, with wheels and service feet for stable placement, with a Lexan safety window-door.

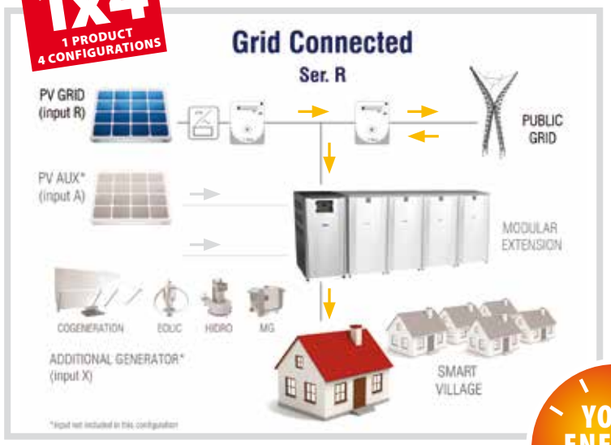
GSE Storage™ 12.50/20.50 RA/A/R

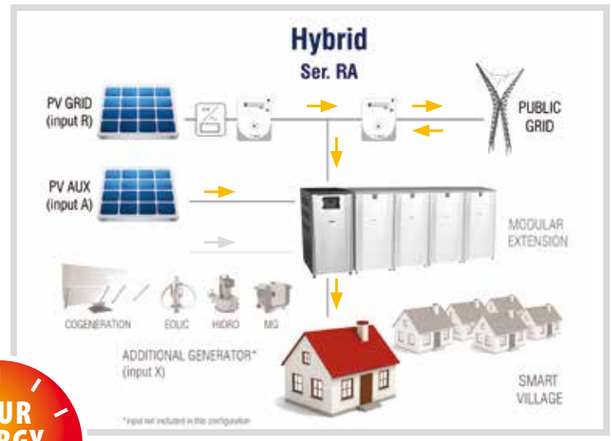
GSE Storage™ is eligible for a 50% IRPEF tax deduction according to applicable Italian regulations for "Construction Refurbishment" (DL 83/2012 and subsequent modifications).

GSE Storage™ is certified according to regulation EN62040 for Static Systems of continuous UPS and is exempt from application of the regulation CEI 0-21 because it does not belong to the category of Energy Storage Systems (ESS) as defined by Art. 3.61 bis CEI 0-21;V1:2013-12.

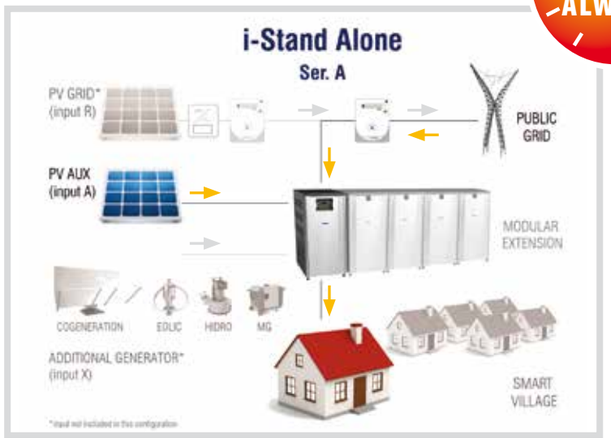
GSE Storage™ can be easily installed on all photovoltaic systems (single-phase or three-phase, new or existing, isolated or hooked up to the grid) because it doesn't entail any variation of system configuration that could modify the energy flows produced and input into the grid by that system.

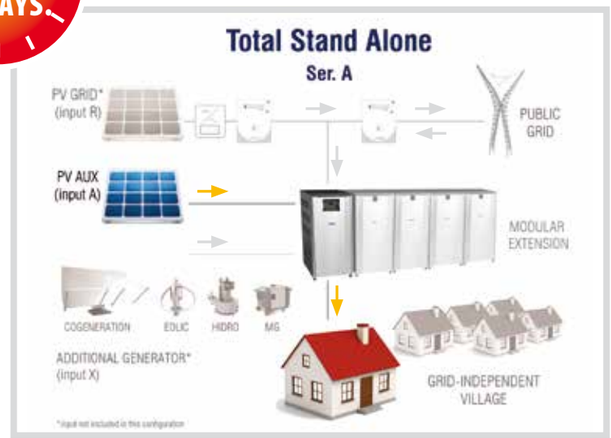
1x4 1 PRODUCT 4 CONFIGURATIONS



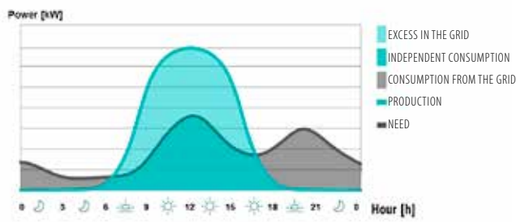


YOUR ENERGY, ALWAYS.

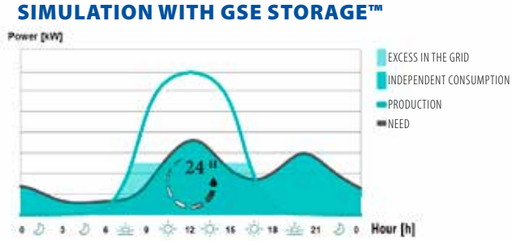




SIMULATION WITHOUT GSE STORAGE™



SIMULATION WITH GSE STORAGE™



RESERVED WEB AREA

Remote communication between GSE Storage™ and the User occurs via an Ethernet through a free reserved web area, allowing the user to communicate with the system, monitor the status of its functional parameters, and receive messages or information in real time about potential anomalies.

PLUG-IN TECHNOLOGY

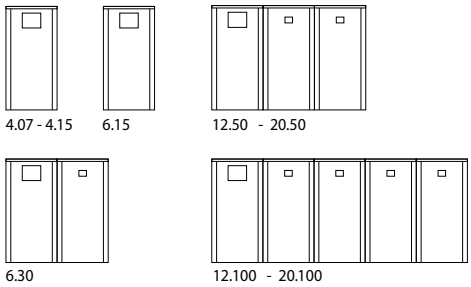
All the electronic components of GSE Storage™ are contained in a single rack with the innovative plug-in technology, thus rendering eventual interventions extremely quick and simple.

PRAMETERS		GSE Storage™							
	Mod.	4.07-RA	4.15-RA	6.15-RA	6.30-RA	12.50-RA	12.100-RA	20.50-RA	20.100-RA
	Unit								
INPUTS									
Public grid									
User	-	Single phase P+N				Three phase 3P+N			
Voltage	VAC	230 V ± 10%				400 V ± 10%			
Frequency	Hz	50 Hz							
PV GRID* (input R)									
Power	kWp	2 ÷ 4	2 ÷ 4	2 ÷ 6	2 ÷ 6	6 ÷ 12	6 ÷ 12	15 ÷ 20	15 ÷ 20
Voltage	VAC	230 ± 15%							
Frequency	Hz	50							
PV AUX** (input A)									
Power	kWp	4,2	4,2	6,3	6,3	12,6	12,6	18,9	18,9
Max Power	kWp	4,5	4,5	6,8	6,8	13,5	13,5	20,2	20,2
Voltage range	VDC	110 ÷ 450 V							
Max Current	A	10							
Max voltage Voc	VDC	450							
OUTPUT									
User									
Power	kW	4	4	6	6	12	12	18	18
Power	kVA	5	5	7,5	7,5	15	15	22,5	22,5
Voltage	VAC	230 + 0.5 /- 5%				400 + 0.5 /- 5%			
Frequency	Hz	50 Hz ± 0,1%							
Peak power	-	2Pnom x 1,5 sec - 3Pnom x 0,05 sec							
Distortion	%	< 3%							
Commutation (On/Off)	ms	≤ 20 ms							
UPS mode	ms	≤ 10 ms							
Waveform	-	Sinusoidal							
Phase sequence	-	Automatic recognition							
STORAGE									
Batteries									
Type	-	Pb-AGM Staz.				Pb-GEL Staz.			
Technical life	-	12 years				15 years			
Nominal voltage	V	48				96			
Capacity (C10)	Ah	155	310	310	620	500	1000	500	1000
Nominal capacity	kWh	7,5	15	15	30	50	100	50	100
Charging mode	-	Charging cycle V-I constant							
Weight	Kg	215	430	430	430x2	840x2	840x4	840x2	840x4
FEATURES AND PERFORMANCES									
PHYSICAL FEATURES									
Cabinet	-	Stainless steel AISI430							
Dimensions	mm	610 x 755 x 1270	610 x 755 x 1270	610 x 755 x 1270	(610 x 755 x 1270) x 2	(610 x 755 x 1270) x 3	(610 x 755 x 1270) x 5	(610 x 755 x 1270) x 3	(610 x 755 x 1270) x 5
Weight	kg	360	570	570	570 + 520	160 + (2 x 930)	160 + (4 x 930)	170 + (2 x 930)	170 + (4 x 930)
Ventilation	-	Thermostatic and forced							
Noise	dB	< 40							
Operating temperature	°C	5 ÷ 40							
Humidity	%	0 ÷ 100 % dew point							
Installation site	-	Ventilated inside							
Protection	IPn	IP21 - Cl. 1							
Connections	-	Plug-in							
Extensions	-	Modular							
Stationing	-	Wheels and service feet							
SYSTEM FEATURES									
Management	-	MCU							
Display	-	Alphanumeric LCD 20 characters for 4 lines							
Interface	-	Ethernet							
Remote monitoring	-	Web Area							
Web Area	-	Graphical display of all electrical dimensions							
Signals	-	Audiovisual alarms							
PERFORMANCES									
Inverter efficiency	-	> 90%							
Charge controller efficiency	-	> 95%							
Battery charger efficiency	-	> 95%							
Standby consumption	kWh	≤ 1% Pnom - 0 W (SEQUENCER stand-by optional)							
Protections	-	Electronic and fuses							
Manual By-pass	-	QDE emergency diverter switchboard							
OPTIONAL									
OPTIONAL									
Additional input X	-	PV / COGEN / MG / EOL / HYDRO (110 ÷ 450 V - 10 A) x n.							
Additional battery bank	-	15-25 kWh / n.1 cabinet				50 kWh / n.2 cabinet			
Insulation	-	Insulating panels							
IP protection	-	Replacement shells							
Painting	-	RAL powder coated							
Standby consumption 0 W	-	SEQUENCER							
Remote display	-	Tablet							
REGULATIONS									
TECHNICAL STANDARDS									
EMC	-	CEI EN 61000							
Safety	-	CEI EN 62040-1 CEI EN 62040-2 CEI EN 60950-1							
WARRANTY									
Warranty	-	2 years on all components							

STANDARD	RA SERIES: Includes both inputs R and A. Supports all four configurations.
ON DEMAND	R series: Includes only the input R. Supports the configuration Grid Connected.
	A series: Includes only the input A. Supports the configurations i-Stand Alone e Total Stand Alone.

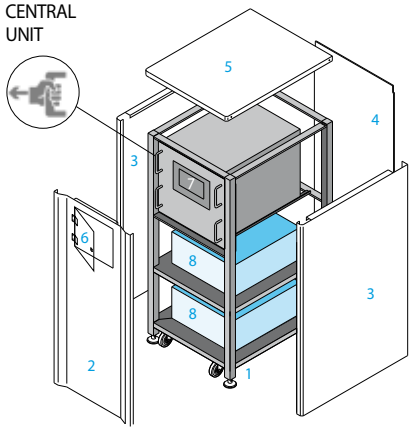
* Not included in the A series ** Not included in the R series

MODULAR APPEARANCE



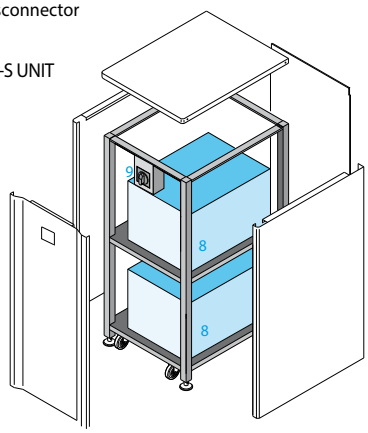
MAIN COMPONENTS

CENTRAL UNIT



1 Structure
2 Front panel
3 Side panels
4 Back panel
5 Top panel
6 Security door
7 Rack MCU/ST
8 Batteries
9 Disconnector

BATT-S UNIT



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#AutonomiaEnergetica