



ALL IN ONE Energy Storage System



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SICON CHAT UNION ELECTRIC CO., LTD

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GRES

GRES

Compact Multi Functional Solution

DESCRIPTION

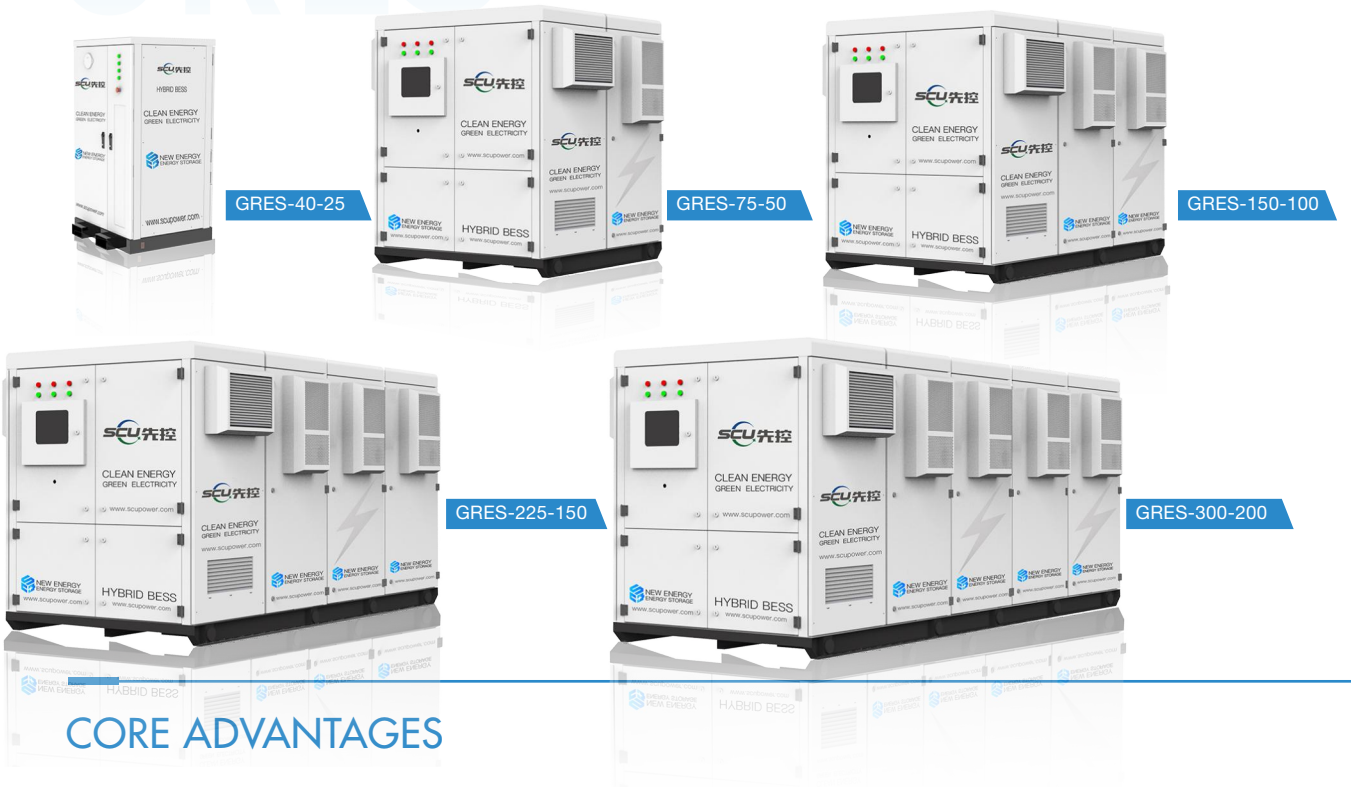
The GRES (Grid Renewable Energy Storage Power Supply) is an intelligent, modular system integrating lithium batteries with multifunctional bidirectional PCSs. It combines lithium batteries, bidirectional DC/AC and DC/DC converters, static transfer switches (STS), and a power monitoring system (PMS) to provide on-grid, off-grid, and uninterrupted power supply, along with static reactive compensation and harmonic suppression. It enables flexible integration of renewable energy, grid, batteries, and loads for optimized, green, noise-free, and highly reliable power. The system features easy installation, simple operation, and broad application potential.

Features

- **Advanced multi-level safety with fire protection, fault isolation, and real-time monitoring**
- **Integrated battery air-conditioning**
- **On Grid, Off Grid, Microgrid, Grid Forming & VSG Capability**
- **PCS & BMS multi-layer protection**
- **Modular, all-in-one, easy to move**
- **Supports PV, Genset, Wind Turbine or any source and EMS**
- **Compact, long lifespan, low failure**

TOP BRAND PACK
WITH ACTIVE BMS

GRES



CORE ADVANTAGES

Safety & Reliability

Cells are designed with isolation brackets to effectively prevent heat diffusion

Shock-absorbing design, transportable on board

Reduction, monitor and fire protection, three levels of safety management

Battery pack string access to eliminate loop current and improve safety factor

Application Flexibility

Efficient and convenient one-touch switch-on

Off-grid operation, black start support

Intelligent human-computer interaction, support for various languages

Accept grid dispatch, support multiple communication methods

Capacity increase dynamically to ease the pressure on the power grid

Wide-range DC access, battery laddering

Cost reduction & efficiency

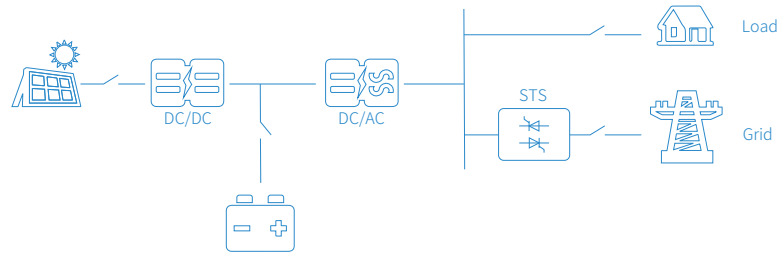
Modular installation for easier operation and maintenance

Long Life, Low Failure, Zero O&M

Low-pollution, low-energy, renewable

All-in-one integration, flexible and rapid deployment

TOPOLOGY DIAGRAM



GRES Specifications

Model		GRES-40-25	GRES-75-50	GRES-150-100	GRES-225-150	GRES-300-200
PV Parameter	MPPT Voltage Range (V)	DC180~DC1000V	DC200V~DC700V			
	MPPT Full-rate Voltage range (V)	DC360~DC850V	DC370V~DC700V			
	No. of MPPT paths	1	0~2 (Optional)			
	Max. current per channel (A)	18A	135A			
AC Parameter (Grid)	Rated Output Power (KW)	25	50	100	150	200
	Max. Output Power (KW)	27.5	55	110	165	220
	Rate Grid Voltage (KW)	AC 380/400				
	Connection Method	3W+N+PE				
	Grid Voltage Range	-15%~+10%				
	Rated Grid Frequency (Hz)	50/60				
	Grid Frequency Range (Hz)	±2				
	Output Current Harmonic	≤3% (Rated Power)				
AC Parameter (No Grid)	Rated Output Power (KW)	25	50	100	150	200
	Max. Output Power (KW)	27.5	55	110	165	220
	Rated Output Voltage (V)	3W+N+PE, 380/400				
	Output Voltage Harmonic	3% (Linear Full)				
	Rated Frequency (Hz)	50/60				
	Overload Capability	≤105%: Long-time Running (105,110] : ≥10min	105%]: Long-time Running (105%-120%): 10min 120%) : Stop Running			
Battery Parameter	Cell Type	LFP				
	Single cell module capacity (KWh)	5.12				
	No. of Battery Modules	8	15	30	45	60
	Battery System Capacity (KWh)	40.96	76.8	153.6	230.4	307.2
	Running time (h)	1.5				
	Battery Life	25℃ 0.5C/0.5C 100%DOD EOL80% ≥4000 Cycle				
	Max. Efficiency	95%				
Protection	DC (BAT) Switch	-	YES			
	PV Switch	YES				
	AC Switch	YES				
	DG Monitor	YES				
	Grid Monitor	YES				
	Insulation Monitor	YES				
	Reverse DC Protection	YES				
	Ground Fault Protection	YES				
	Surge Protection	DC II / AC II				
Basic Parameter	Size (W*D*H) (mm)	1000*1069*21800	1682*1502*1700	1682*2264*1700	1682*3026*1700	1682*3788*1700
	Weight (kg)	976.5	1395	2470	3545	4620
	Isolation Method	Non-Isolation				
	IP Class	Outdoor IP54				
	Operation Temperature Range	-20 ~ 55℃(>45℃ Derate)				
	Relative Humidity	0 ~ 95%RH, Non-Condensing				
	Temperature Control Method	PCS cabinet: smartair-cooled;Batterycabinet:air- conditioning				
	Max. working altitude (m)	4000 (>2000 Derate)				
	Display	Touchscreen				
	Communication Interface	LAN、RS485、CAN				
	Communication Protocol	Modbus-TCP、Modbus-RTU、CAN2.0B				
	Fulfilment	IEC62477、IEC61000、G99、VDE4115、EN50549-1、UN3480				

BRES

BRES

Industrial & Commercial Solution

DESCRIPTION

BRES Energy Storage System[®] integrates long-life lithium batteries, BMS, bidirectional PCS, active safety, thermal control, and energy management into a standardized outdoor cabinet, enabling modular, plug-and-play deployment. Each standalone unit supports AC/DC power conversion, with climate control and safety systems for reliable operation. Parallel AC-side connectivity allows flexible capacity expansion of storage stations.

Features

- **Advanced multi-level safety with fire protection, fault isolation, and real-time monitoring**
- **On Grid, Off Grid, Microgrid, Grid Forming & VSG Capability**
- **Built for extreme environments**
- **High-power PCS & multi-layer BMS protection**
- **Modular, scalable, easy deployment**
- **Supports PV, Genset, Wind Turbine or any source and EMS**
- **Containerized with industrial air-conditioning**

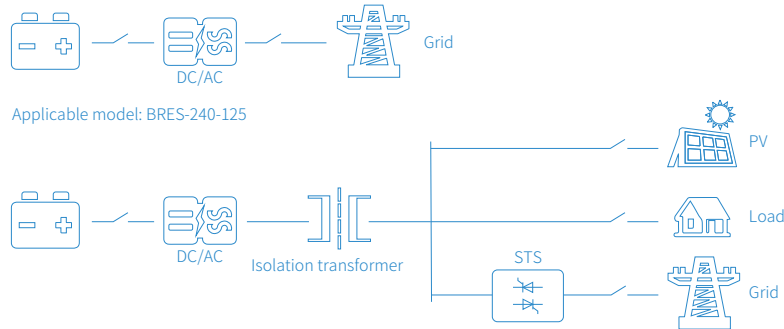
BRES



CORE ADVANTAGES

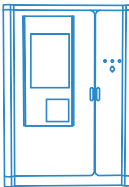
Safety & Reliability	Application Flexibility	Cost reduction & efficiency
Cells are designed with isolation brackets to effectively prevent heat diffusion	Efficient and convenient one-touch switch-on	Modular installation for easier operation and maintenance
Shock-absorbing design, transportable on board	Off-grid operation, black start support	Long Life, Low Failure, Zero O&M
Reduction, monitor and fire protection, three levels of safety management	Intelligent human-computer interaction, support for various languages	Low-pollution, low-energy, renewable
Battery pack string access to eliminate loop current and improve safety factor	Accept grid dispatch, support multiple communication methods	All-in-one integration, flexible and rapid deployment
	Capacity increase dynamically to ease the pressure on the power grid	
	Wide-range DC access, battery laddering	

TOPOLOGY DIAGRAM



Applicable model: BRES-2400-1250/BRES-1200-625/BRES-720-375

BRES Specifications



Model		BRES-240-125	BRES-720-375	BRES-1200-625	BRES-2400-1250
AC Parameter (Grid)	Rated Power (kW)	125	375	625	1250
	Rated Grid Voltage (V)	3W+N+PE, 380V/400V			
	Grid Voltage Range	-15%~+10%			
	Rated Grid Frequency (Hz)	50Hz/60Hz			
	Grid Frequency Range (Hz)	±2Hz			
	Output Current Harmonics	≤3% (Rated power)			
	DC Component	< 0.5%In			
	Power Factor Range	-0.9~+0.9			
AC Parameter (No Grid)	Rated Output Power (kW)	125	375	625	1250
	Max. Output Power (kW)	131	393	656	1312.5
	Rated Output Voltage (V)	3W+N+PE , 380V/400V			
	Output Voltage Harmonics	3%			
	Rated Frequency (Hz)	50Hz/60Hz			
	Overload Capacity	105%]: Long-time Running (105%~120%]: 10min 120%) : 1min			
Battery Parameter	Cell Type	LFP			
	Single cell module capacity (KWh)	241.152			
	No. of Battery Cabinets	1	3	5	10
	Battery System Power (KWh)	241.152	723.456	1205.76	2411.25
	Rated operation hours (h)	2 (Changeable number of battery modules with othertime options)			
	Cycle Life	6000 (0.5C@25°C Charge/Discharge@90%DOD, EOL80%)			
Protection	AC Switch	YES			
	PV Electric Operated AC Switch	YES			
	Grid Monitor	YES			
	Surge Protection	YES			
Basic Parameter	Size (W*D*H) (mm)	1600*1330*2250	3000*2438*2591	6058*2438*2591	12192*2438*2591
	Weight (kg)	2500	10000	16000	28000
	Isolation Method	-	Isolation Transformer (built-in)		
	NO/OFF Grid Switch Device	STS (Optional)			Electric Mechanism
	IP Class	Outdoor IP54			
	Working Temperature Range	-20℃~55℃ (Derated above 45℃)			
	Relative Humidity	0%RH~95%RH, Non-condensing			
	Temperature Control Method	Batterycabinet:air-conditioned;electricalcabinet:air-cooled			
	Max. Working Altitude (m)	45℃, 2000m; 2000~4000m Derate			
	Display	Touchscreen			
	Communication Interface	RS485、LAN			
	Communication Protocol	Modbus-RTU、Modbus-TCP			
	Fulfilment	IEC62933、IEC62477、IEC61000、G99、VDE4110、EN50549-1、EN50549-2、UN3536			

PowerSync

Distribution Cabinet

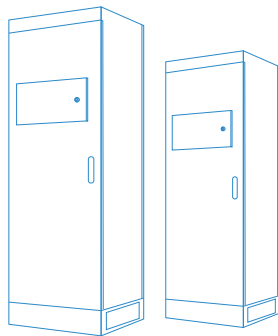
DESCRIPTION

As the center connecting multiple energy sources, the microgrid management system cabinet plays an important role in off-grid switching. There are four options: 250K, 500K, 750K, and 1000K. Genset, photovoltaic, and load mains control circuit breakers are brought together and equipped with EMS screen to manage them uniformly. The VSG mode is added on the basis of the original grid-connected mode, off-grid mode, etc., which has more advantages in the application situation of "optical firewood storage".



Features

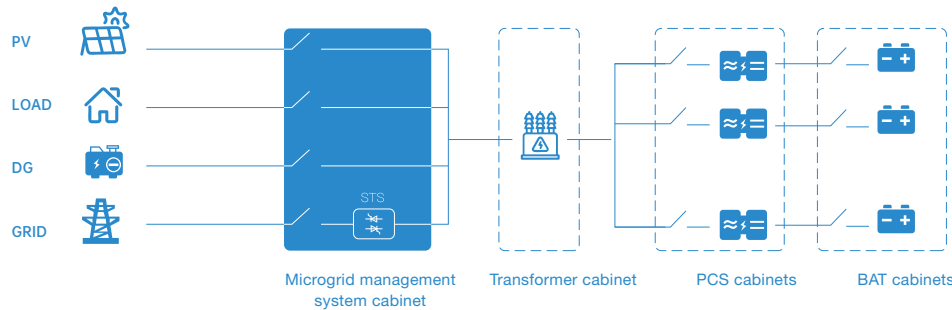
- **EMS unified management and scheduling, intelligent monitoring, and collective management.**
- **A variety of circuit breakers are integrated in the cabinet(must be equipped with: load, energy storage; optional: photovoltaic, oil engine, and municipal power), and are selected according to actual use.**
- **Respond quickly in the event of grid failure or change, and maintain stable power generation and injection power.**



Specifications

Model		EIDC-C01D4	EIDC-E01D4	EIDC-G01D4	EIDC-J01D4
Power Parameters	Grid port power	250	500	750	1000
	Load port power	250	500	750	1000
	Maximum input power of photovoltaic	300	600	900	1200
	Maximum input power of oil engine	250	500	750	1000
	PCS port power	250	500	750	1000
	STS power	250	500	750	1000
	Rated voltage	400V			
	Rated frequency	50/60Hz			
	Long-term overload capability	110%			
	And switch off the grid time	10ms			
	Efficiency	99.8%			
Communication	Communication port	LAN/RS485			
	Communication protocol	Modbus TCP/RTU			
System Parameters	Human-computer interface	Support			
	Size(W*D*H)mm	1000*1000*2000			1600*1000*2000
Other	Weight	750kg	800kg	1000kg	2000kg
	Operating temperature	-30~70℃			
	Storage temperature	-40~70℃			
	Relative humidity	<95% (no condensation)			
	Cooling method	Smart air-cooling			
	Protection level	IP54			
	Wiring method	3W+N+PE			
	Altitude	≤4,000 m (>2,000 m derating)			
	Meet the criteria	IEC62477、IEC61000			

TOPOLOGY DIAGRAM



Note: Photovoltaic switch, diesel switch, transformer, and STS module are optional.

CASE

20ft BRES Pig Farm Project
Country: Belgium



40ft BRES Fuel Pumps Mining Project
Country: Australia



20ft BRES Office Area Project
Country: Thailand



20ft BRES Steel Plant Project
Country: Czech Republic



BRES Vehicle Certification
Lab Project
Country: Germany



GRES Thermal Power
Plant Project
Country: Austria



GRES Pencil
Factory Project
Country: Hungary



Niger light wood storage project
Country: Niger
Configuration:
Lithium battery system: 1224kWh
PCS: 600kW
PV: 600kW



GRES Port RTG Project
Country: Thailand

