



BSG Box technical datasheet

BSG company introduce their new compact
EMS systems for battery storages and master systems.

BSG Box technical datasheet

Model BSG Box GX

- Local EMS designed for small battery storages up to 1 MW.
- Wide range of integrable PCS types and battery manufacturers.
- Peak shaving and load shifting on board.
- Support of external electricity meters.
- Photovoltaic plant dynamic load management.
- Modbus TCP, RTU, MQTT, OPC UA, etc.

Model BSG Box GY

- Local EMS designed for utility scale battery storages.
- Wide range of integrable PCS types and battery manufacturers.
- Peak shaving and load shifting on board.
- Modbus TCP, RTU, MQTT, OPC UA, IEC60870-5-101, IEC60870-5-104, etc.
- Distribution company gateway.
- HW firewall.

Model BSG Box GZ

- Master EMS designed for control power blocks.
- Wide range of integrable battery storages, GAS Turbines, Diesel generators, etc.
- Support service on board.
- Modbus TCP, RTU, MQTT, OPC UA, IEC60870-5-101, IEC60870-5-104, etc.
- Redundant system.
- Distribution company gateway.
- HW firewall.

Technical parameters

Type	Box GX	Box GY	Box GZ
Control system	Up to 0,5 MW	Up to 12 MW	Master EMS
Processor	S7-1200	S7-1500	S7-1500
Ethernet port	Up to 2 independent ports	1x + 2x	1x + 2x
RS232/485	Available	Yes	Yes
I/O	14/10	max 32/32	max 64/64
AI	1x 0 - 10V, 4x RTD/TC	4xU/I, 4x RTD/TC	4xU/I, 4x RTD/TC
Ai EM CT 1/5	No	Yes	Yes
Redundancy	No	No	Available
Protocols			
Profinet	Master IO/Slave IO	Master IO/Slave IO	Master IO/Slave IO
OPC UA	Server	Client/Server	Client/Server
Modbus TCP/IP	Client/Server	Client/Server	Client/Server
Modbus RTU	Master/Slave	Master/Slave	Master/Slave
MQTT	Publisher/Subscriber	Publisher/Subscriber	Publisher/Subscriber
Rest Api	Yes	Yes	Yes
IEC60870-5-101	No	Master Station/Slave Station	Master Station/Slave Station
IEC60870-5-104	Optionally	Master Station/Slave Station	Master Station/Slave Station
IEC61850	No	Yes	Yes
Measuring of electric features			
EM card	No	Yes	Yes
Support of external EM	1x	Yes	Yes
Visualisation			
HMI	Available	Available	Available
Scada PC	No	Available	Available
WebServer	Yes	Yes	Yes
Sm@rt Server	With use of HMI	With use of HMI	With use of HMI
Conectivity			
Data sim	APN sim	APN sim	APN sim
Ethernet port	Yes	Yes	Yes
Single mode optical module	No	Yes	Yes

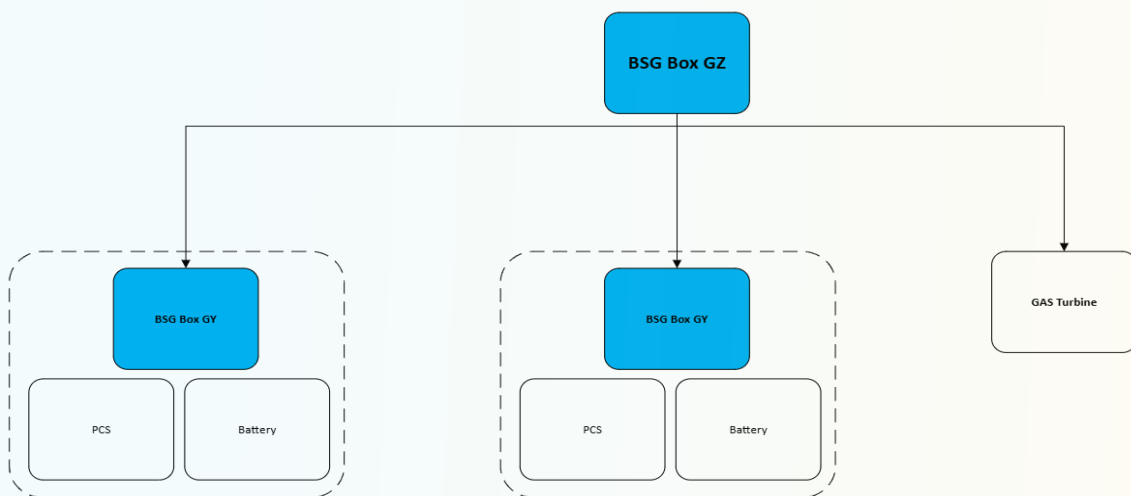
Technical parameters

Type	Box GX	Box GY	Box GZ
Cyber security support			
HW Firewall	No	Yes	Yes
APN Sim	Yes	Yes	Yes
VPN tunnel	Yes	Yes	Yes
Syslog	Yes	Yes	Yes
Support of NIS2*	Yes	Yes	Yes
SW app. BESS			
Manual control	Yes	Yes	Yes
Peak shaving	Yes	Yes	Yes
Load shifting	Yes	Yes	Yes
FVE DLM	Yes	Yes	Yes
EVSE Control	Yes	Yes	Yes
Aggregator	Possibility of integtation	Possibility of integtation	Possibility of integtation
SPOT	Aggregator	Aggregator	Aggregator
Distribution Control	No	Yes	Yes
SW applications of AB			
FCR	No	Yes	Yes
aFRR +/-	No	Yes	Yes
mFRR +/-	No	Yes	Yes
Design for			
BESS MW/MWh	1/2	> 1/2, <= 12/24*	Master EMS

HMI Visualisation



BSG Block topology



Technical Notes