TMEIC

Green Energy

Smart Storage Solutions

Energy Storage System

TMEIC is a global leader in providing innovative high quality power electronics for renewable industry. With the increasing demand for grid-capable energy storage solutions, we are leveraging our experience with lithium ion and NAS battery systems to meet the needs of developers and utilities around the world.

Features

Higher Power, High Capacity, High Efficiency

- Industry high efficiency PCS 98.5% (bidirectional efficiency)
- Supports configuration to 200 MWh

Safety & Reliability

- Bidirectional power flow protection control based on battery cell real-time data
- Life longevity based on bidirectional power flow control designing to battery charge/discharge characteristics

Comprehensive System Function

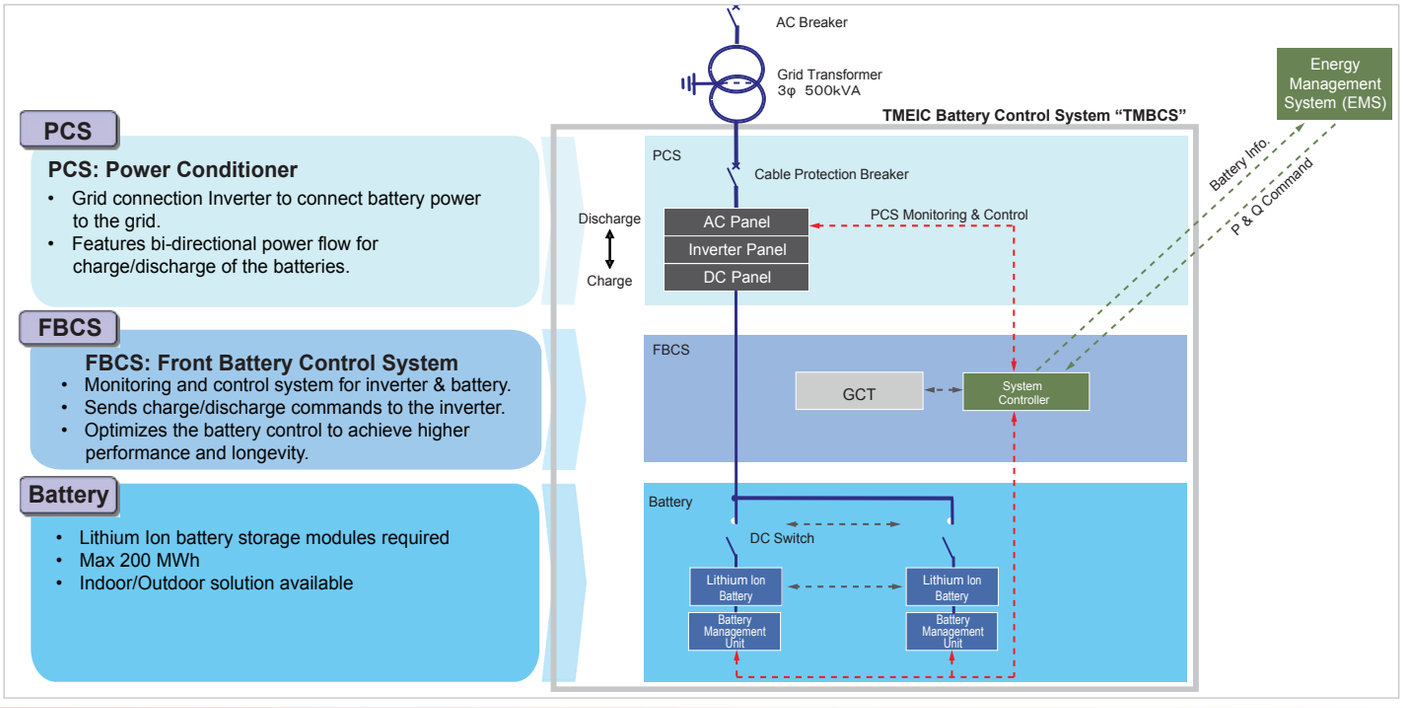
- Complete Monitoring System for BESS
- COM Interface with EMS (TCP/IP, FL-NET

Grid Protection Function

- Grid connection / protection function, Anti-islanding
- Off-grid Mode

Various Applications

- Peak-cut, Peak shift, PV integration, Generator integration
- Back-up power during blackout



Container Box Package

Basic Configuration - PCS, FBCS, Storage Battery Boards, Standard Equip. (Panel Board, Relay Terminal Boards, Outer Interface)
Dimensions: - 20 ft: 6,058 W×2,438 H x2,896 D (mm)
- 40 ft: 12,192 mm × 2,438mm × 2,896 (mm)

Monitoring/Operation

It is possible to monitor condition of all battery cells and operate discharge and charge of all batteries at center or field.

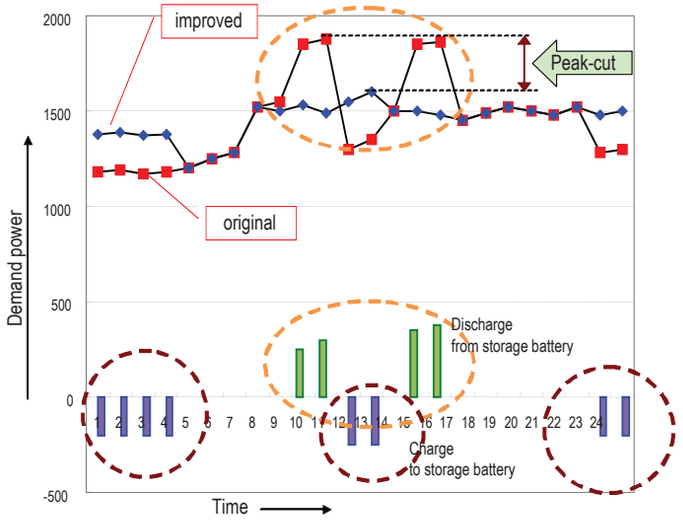
Peak-Cut

Reduce energy costs

Supplies energy at peak (discharge), and stores energy (charge) during off-peak, reducing the energy cost.

Counter plan for electrical power usage restriction

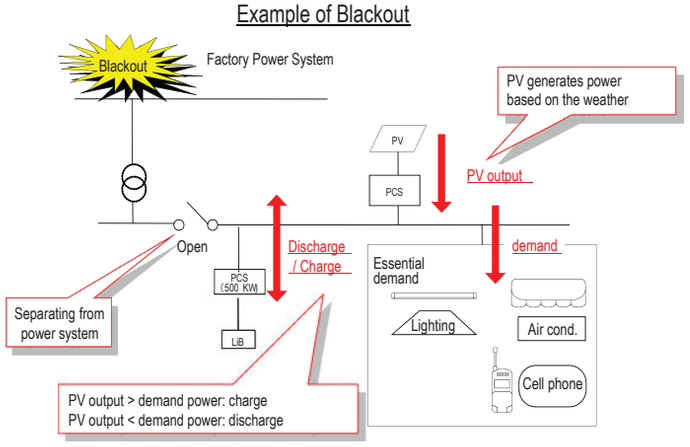
Improvement of factory-operating ratio by peak-cut is possible even in the case of being forced to stop the operation for electrical power usage restriction.



Backup power during power blackouts

Effectively use PV power by stabilizing the unstable PV output during blackouts

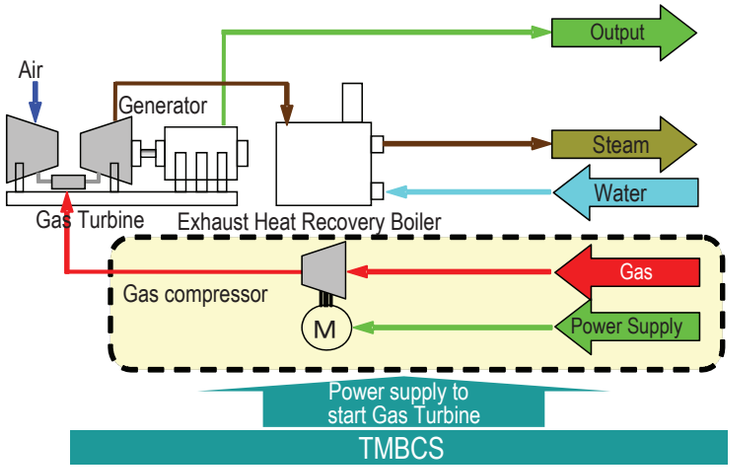
Decrease the power cost by leveling the unstable PV control depending on power demand.



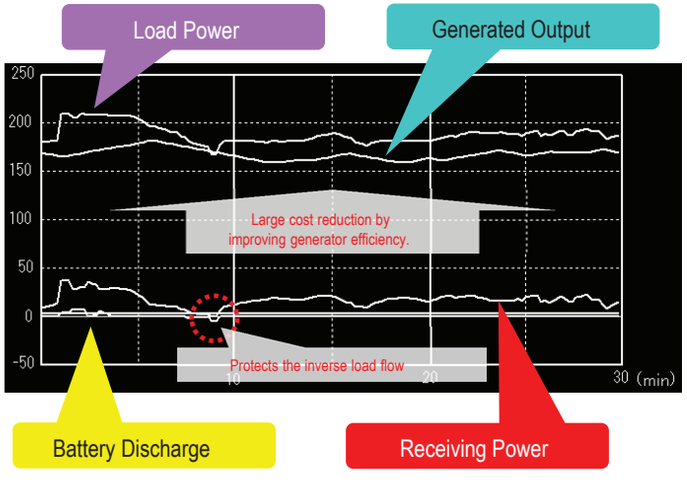
Backup power for starting gas turbines

- During a power outage, a compressor cannot start a gas turbine because the gas compressor loses power. TMEIC's Battery Control System can supply the energy to start gas turbines.
- Improve generator efficiency by protecting the inverse load flow, decreasing power cost

Starting gas turbine during blackout



Improving generator efficiency



Storage Battery System Configuration Example

Configuration	100 kWh System	250 kWh System	500 kWh System	1.0 MWh System
Capacity	100 kWh	250 kWh	500 kWh	1.0 MWh
Maximum Output	300 kW	750 kW	1.5 MW	3.0 MW
Phase	Three-phase, Three-wire system			
Rated Voltage	AC300 V ±5%			
Rated AC Frequency	50/60 ±3%			
Efficiency	Max. 98.5%, 97.5%+ @ 50% Load			
PCS Board Configuration	1 Board	1~2 Boards	1~3 Boards	1~8 Boards
FBCS Board Configuration	1 Board	1~2 Boards	1~3 Boards	1~8 Boards
Storage Battery Configuration	2 Boards	5 Boards	10 Boards	20 Boards
External Dimensions	PCS Board (WxHxD): 2016 mm x 1900 mm x 748 mm FBCS Board: 1400 mm x 1900 mm x 730 mm Storage Battery Board: 1400 mm x 1900 mm x 730 mm			
Weight	PCS Board: 1500 kg; FBCS Board: 500 kg: Storage Battery Board: 1200 kg			

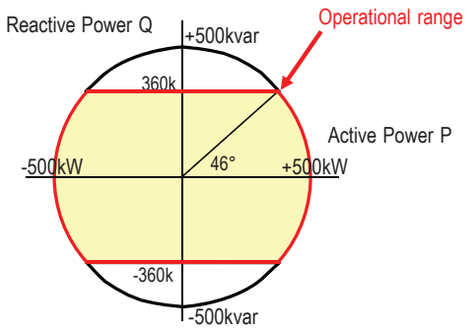
Notes: Storage battery configuration depends on output demanded by the user.
Alternate configurations up to 200MWh are available.

Battery Inverter (PCS) 500 kW

Characteristics

- 3-level Circuit
- Max. Efficiency 98.5%
- Small footprint
- Parallel configuration
- Off-grid operation

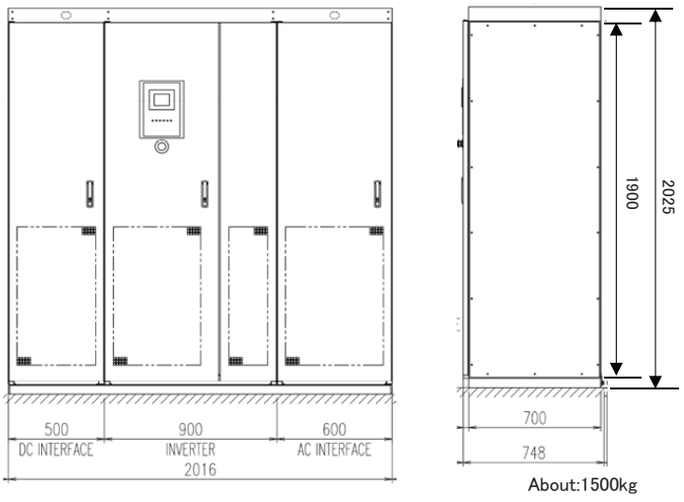
Operating Range



Specifications

Electrical	
Rated Power *Max 500 kVA	Active Power ±500 kW Reactive Power ±360 kvar
DC Voltage	450 V~800 V
AC Voltage	300 V ±5%
AC Frequency	50/60 Hz ±3%
Efficiency	Max. 98.5%, 97.5% @ 50% Load
Ex. COM	Ethernet/RS485
Compliance	IEC (Harmonics IEEE519)
Environmental Conditions	
Installation	Indoor/Container
Temperature	-5°C ~ 40°C
Humidity	15% ~ 85% (Non-condensing)
Elevation	Under 1000 m

Layout



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