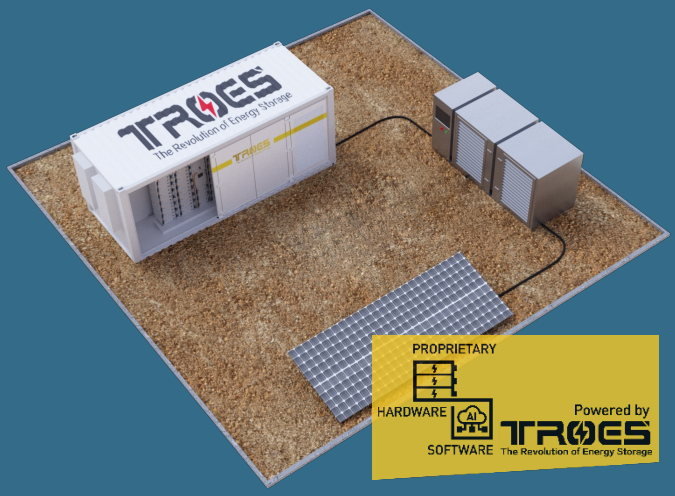
TROES
The Revolution of Energy Storage

Energy Storage for Off-Grid / Half Off-Grid Applications



BENEFITS:

Energy Saving

Provide clean energy to meet all or portion of demand

Carbon Emission Reduction

Minimize carbon on the planet and reduce environmental footprint of operations

Future Contribution to Virtual Power Plant

Continue to contribute to the overall grid sustainability

Critical Power Offering

Provide reliable, resilient and safe working environment

TRENDS:

"Commercial and institutional buildings are the highest energy consuming buildings in Canada and power demand for these buildings pose substantial problem to aging grid systems"
- Statistics Canada, 2016

CHALLENGES:

Grid purchasing costs for buildings with high power demands consists of energy charges and demand charges, and demand becomes a large part of their bill when they use a lot of power over a short period of time.

TROES' SOLUTION:

TROES has developed a turnkey solution, with grid tied solar PV and Battery Energy Storage System (BESS) that addresses the power demand issues of commercial, residential and industrial buildings. Based on buildings necessity and resource available, this system can take the building totally off-grid or semi off-grid.

SPECIFICATIONS:

Model	TI-100-138
Network	TCP/MODBUS/RS485
Battery Energy Storage System	
Battery Technology	Lithium iron phosphate (LiFePO4)
Nominal Energy Capacity	138.24kWh
Usable Energy	115.83kWh
Rated DC Voltage	768V
DC voltage OP range	672V - 852V
Battery Efficiency	98%
Auxiliary AC Voltage	480V, 3 Phase
Utility Frequency	60 Hz
Battery Pack	
C-Rate (charge/discharge)	1C/1C
Nominal Voltage	51.2V
DC Current Rating	180A
Capacity	9.216kWh
Operating Temperature	-20˚- 50˚C
Cycle Life	5000 Cycles (@0.5C/0.5C, 25℃) 4000 cycles (@1C/1C, 25℃)
Mechanical Specifications	
Enclosure	1500*600*2100 mm
Thermal Runaway Protection	Yes
HVAC	Air-Conditioning
Color	RAL 7035 Grey-White/RAL 9005 Black
Certifications	
Battery Cell	UL1642
Battery Packs	UL1973, UN38.3

BESS WITH SOLAR PV:

Our proprietary energy storage designs include a Battery Management System (BMS) with 3-layers of control and 3-layers of operation protection and an AI powered Dual-Equilibrium ™ Technology, proven to improve battery lifecycle & overall system efficiency.

The system comprises of a 100kW/138kWh BESS integrated with a 300kW solar PV array and the grid. This setup will be able to support the buildings' power demands during peak periods using energy stored in BESS during off-peak hours with solar PV or the grid.

Includes:

- Battery Energy Storage System
- Power Conversion System
- 2*40ft flat bed sub-trailer

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