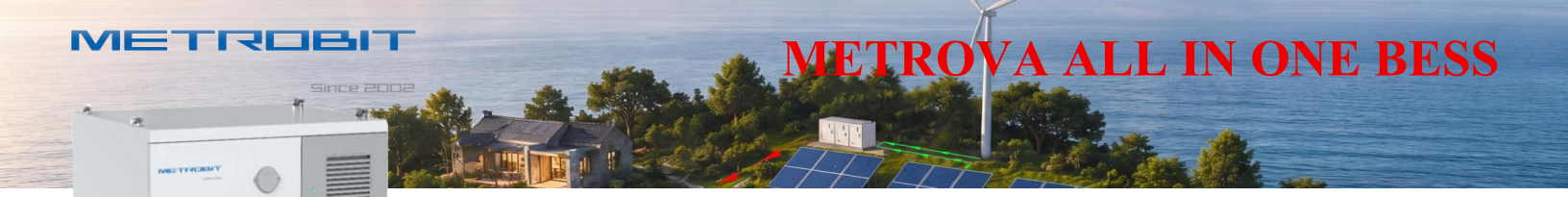
METROBIT

Since 2002

METROVA ALL IN ONE BESS



Product description

METROVA ALL IN ONE series is state of art outdoor cabinet liquid-cooled energy storage system. It adopts All-in-one integrated design and integrates battery energy storage unit, intelligent converter, battery management system, STS,MPPT, temperature control system, fire protection system, energy management system and other equipment.

It meets the requirements of off-grid operation and seamless switching, features high charging and discharging thermal management efficiency, multiple safety designs and a small footprint.

It supports various EMS energy strategies, can participate in power market transactions (VPP), and can be used in various industrial and commercial application scenarios such as peak shaving, valley filling, emergency backup, demand control, optical storage and charging, and microgrids.

Key Features

Highly Integrated: ALL-in-one integrated design, Ease of installation, maintenance, saving space and cost.

Modular Design: Flexible configuration, multiple parallel connections, fast response, and ensuring continuous uninterrupted power supply for critical loads.

Rich Configuration: Supports simultaneous access to battery, power grid or diesel generator, and photovoltaic.

Safe And Reliable: Multiple fire protection design, cell level temperature detection + PACK level + cabinet level aerosol fire extinguishing + water fire protection + explosion-proof pressure.

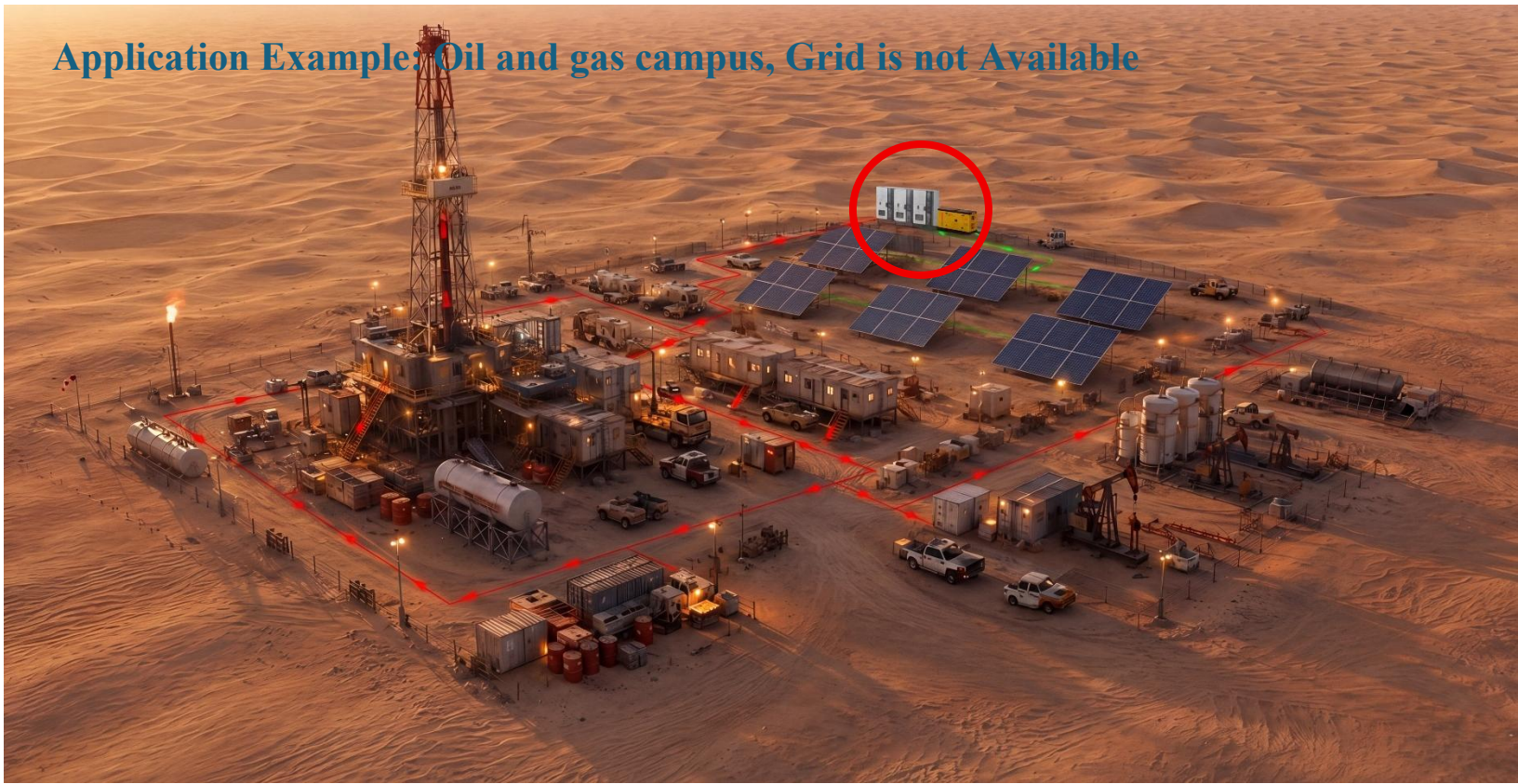
Intelligent Operation and Maintenance: The entire network's energy storage is visible and manageable, improving system reliability, stability, operation and maintenance efficiency, and optimizing system performance.

Extreme Temperature Control: Precise Liquid-cooled temperature control, cell temperature ≤ 2°C, system temperature difference ≤ 3°C. The system has higher efficiency and longer service life.

Certification

IEC61000 & IEC632619
UN38.3 (Q2 2026)
G99 (Ready)
VDE-AR-N 4105 / VDE V 0124
EMC
AS/NZS 4777.2:2020 + Amd 2:2024 (Ready)

Application Example: Oil and gas campus, Grid is not Available



METROVA ALL IN ONE BESS

KEY FEATURES

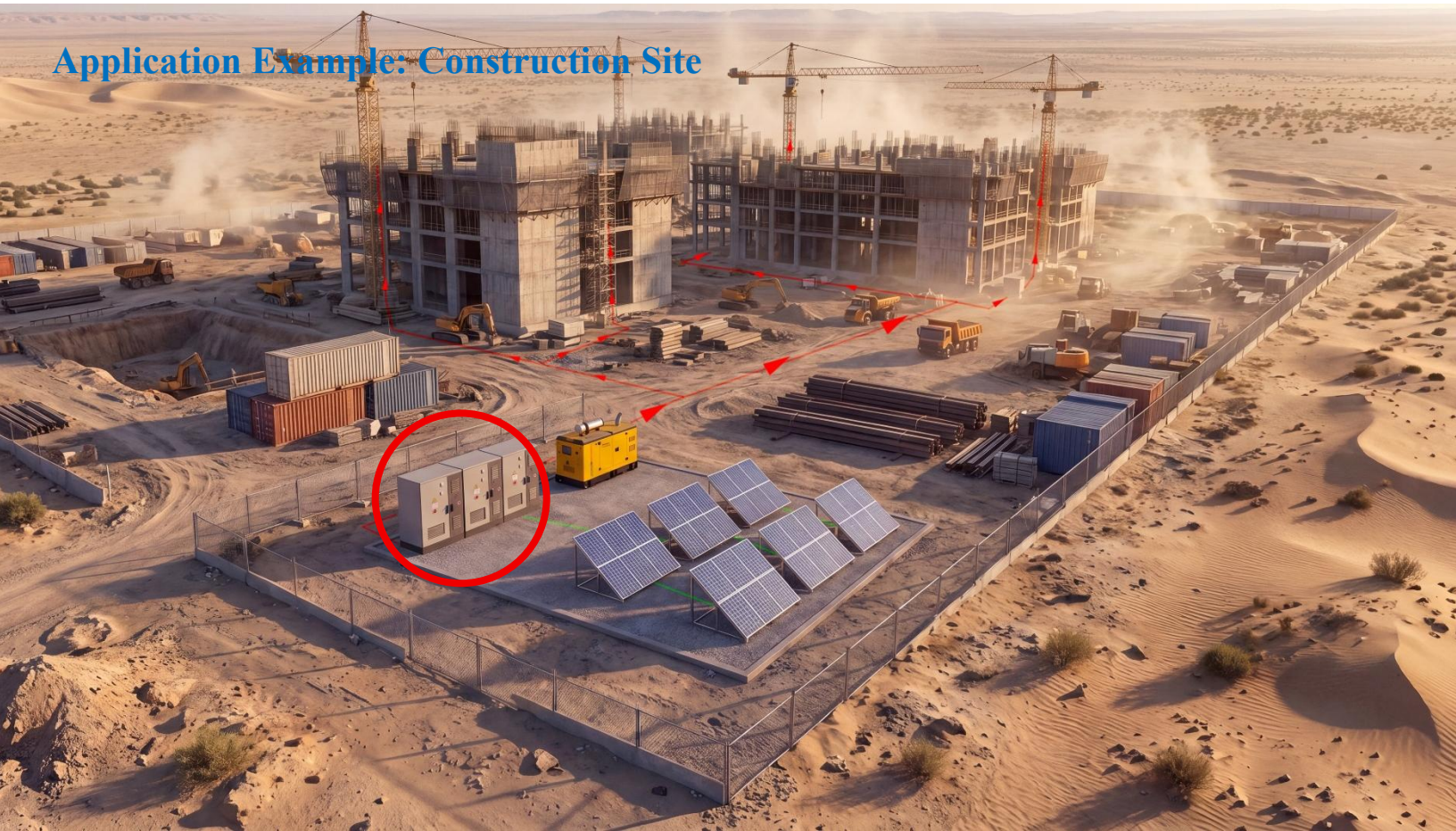
- High integration: All-in-one integrated design, easy to install and maintain, saving space and cost
- Safety and reliability: Featuring multiple fire protection designs, it combines cell-level temperature detection with PACK-level and cabinet-level aerosol fire suppression, water-based firefighting, and explosion-proof pressure relief to ensure the system operates safely and reliably.
- Rich configuration: supports simultaneous connection of load, battery, grid, diesel generator, and PV
- Modular design: flexible configuration, support for multi-machine parallel expansion, support for automatic switching between grid and off-grid, fast response, and ensure continuous power supply for critical loads
- Extreme temperature control: Compared with the air-cooling scheme, it improves the thermal management efficiency, space utilization, reduces the temperature difference, improves the battery performance, and achieves the cell temperature difference ≤ 2℃ and the system temperature difference ≤3℃, so as to achieve higher system efficiency and longer life.
- Intelligent O&M: Visualize and manage energy storage across the entire network, improving system reliability, stability, and O&M efficiency while optimizing system performance

METROVA ALL IN ONE BESS

Technical Specification

AC	
Output power and Voltage	105 KW/400 V,Three-phase four-wire
Rated current	152A
Overload capacity	110% long term
Frequency	50Hz/60Hz adaptive
Power factor	0.99
Current distortion rate	<3% (rated power)
Battery	
Cell Type, Battery Pack Type	LFP3.2V/314Ah, 1P52S
Battery pack configuration	1P260S
Nominal battery capacity	261kWh
Charge/discharge rate	≤0.5P
General	
Size (width*depth*height), Weight	1570*1360*2335 （mm), Approximately 2867 kg
IP Rating	IP55
Working altitude	2000 meters (over 2000m reduced
Operating temperature	-20℃~55℃
Relative humidity	0-95% (no condensation)
Cooling method (PCS)	Smart Air Cooling
Cooling method (battery compartment)	Smart Liquid Cooling
Fire extinguisher system	PACK+ Cabinet-level aerosol fire suppression + Water-based fire suppression + Explosion-
Communication interface	RS485, CAN, Ethernet, dry contact
STS PARAMETERS (OPTIONAL)	
Power rating	200kW (200kW on the grid side, 100kW on the load side)
Automatic switching time between On-grid and Off-grid	≤20ms
PHOTOVOLTAIC PARAMETERS	
Maximum PV input power	50kW/100kW
MPPT voltage range	The PV array open circuit voltage ranges from 200V to 720V.
MPPT quantity	1/2
Maximum input current	100A
Certification	IEC61000 (Beg Q3 2026), IEC62619 (Beg Q3 2026)
	UL9540A (Beg Q3 2026), UN38.3 (Beg Q3 2026)
	EN 50549-1/-10 (Beg Q3 2026), EN 50549-1/-10 (Beg Q3 2026)

Application Example: Construction Site



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EMS: ENERGY MANAGEMENT SYSTEM

METROVA EMS centralizes monitoring, control, and optimization for METROVA All in One across PCS BMS, meters and auxiliaries （thermal, fire, environment）. It acquires real-time data and, by operating mode, dispatches safe charge/discharge commands. It also issues alarms, enforces protections, and can initiate emergency actions to safeguard the plant.

Core capabilities:

- Operating strategies: Peak-shave/valley-fill (Arbitrage) , anti-export , demand limiting , self-consumption, and backup/off-grid.
- Monitoring & control: Live SLD visualization, device status, curated alarms, and a Command Hub for safe set-points and mode control.
- Reporting & analytics: Revenue/energy, SOC/SOE, power trends, and device curves with configurable views.
- Administration: Site & device management, tariff/meter-periods, local/remote mode selection, and operation logs.

The energy storage EMS completes the centralized monitoring and management of the entire energy storage power plant. The energy storage EMS is connected to the secondary remote-control system, PCS, BMS, and auxiliary equipment (temperature control, fire protection, environment) to collect operational data of each equipment. Based on different operating modes, corresponding optimization strategies are adopted to control the charging and discharging of the energy storage system.

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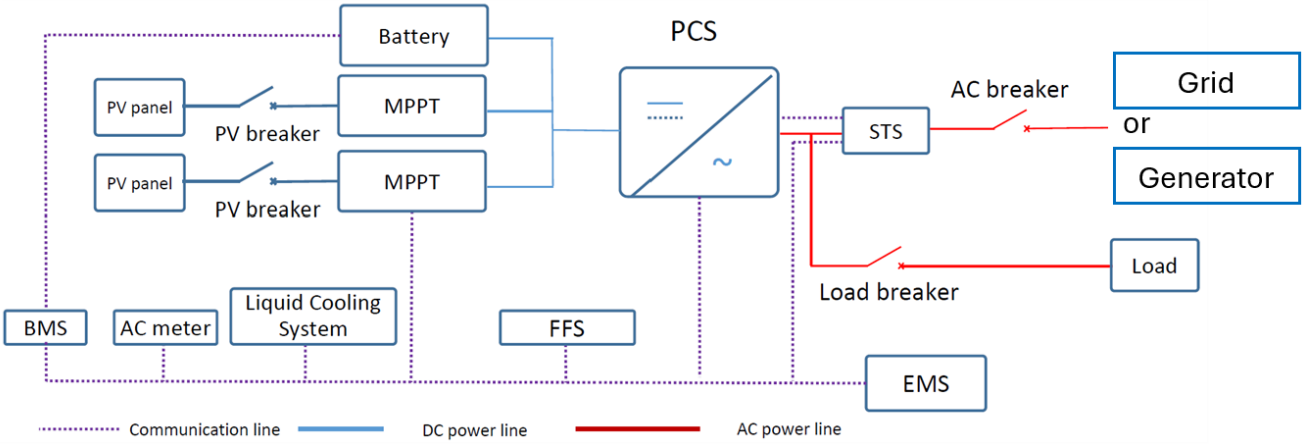
System Block diagram



Parallel Connection

Up to 6 system can be connected in parallel to achieve 630KW/1,566 KWH

Application Example: Iland, where Grid is not available