

Product Functional Feature

The M1800 - 3450 Centralized Medium-Voltage Converter System is an integrated device that combines the following components into a single container :

- One Power Conversion System (PCS)
- One high-voltage ring main unit
- One lighting system
- One double-wound dry-type transformer
- One fire Supression system
- Grounding system



This design is highly integrated, space-efficient, and easy to transport, install, and maintain. The container is divided into three sections: the high-voltage compartment, the transformer compartment, and the PCS side. It is suitable for various application scenarios, including renewable energy generation, grid-side, and user-side applications.

Features of the Medium-Voltage Converter Container

1. Capable of PQ, VF, SVG, VSG functions, and supports high/low voltage ride-through.
2. Fast power dispatch, off-grid operation, and "black start" capabilities, with strong grid adaptability.
3. Supports two battery groups with independent charge/discharge management, which is more battery-friendly.
4. Rational and efficient layout to maximize space utilization.
5. Integrated secondary circuit with unified measurement, protection, and communication.
6. Integrated "transformation" and "step-up" design for one-stop product delivery.
7. More convenient and efficient transportation, lifting, installation, and maintenance.
8. Suitable for harsh environments, including high temperature, high humidity, high altitude, and high salinity.
9. Intelligent multi-stage fan speed control, wide-temperature operation capability, stable at 50°C without derating, and high system stability.
10. Three-level topology with up to 99% conversion efficiency for superior power quality.

Product Specification Parameters

Category	Name	Parameter	Note
DC Parameters	Maximum Input Voltage	1500V	
	Maximum DC Current	3872A	
	Battery Group Voltage Range	1000~1500V	
	Maximum Battery Groups	2	
AC Parameters (Grid Connection)	Rated AC Power	3450kW	
	Maximum AC Power	3795kW	
	AC Voltage	690V	
	Rated Grid Voltage	10kV/20kV/35kV	
	Rated Grid Frequency	50/60Hz	
	THD (at rated power)	<1.5%	
	Power Factor	>0.99 (at rated power)	
	Power Factor Adjustment Range	-1 (leading) to 1 (lagging)	
System Parameters	System Maximum Efficiency	98.31%	
	Operating Temperature Range	-30°C~+60°C	
	Humidity Range	0~100%RH	No condensation
	Maximum Operating Altitude	5000m	
	System Communication Interfaces	RS485/Ethernet/CAN	
	External System Communication Protocols	Modbus TCP/Modbus RTU	
Mechanical Parameters	Dimensions (D×W×H)	7620×2438×2896mm	
	Weight	14500kg	Dry-type transformer
	Protection Level	IP54	
	Corrosion Protection Level	C3	C4 and C5 are optional
Certifications	GB/T 34120、GB/T 34133		

Configuration List

No.	Item	Quantity
1	25-Foot Container	1
2	PCS (Power Conversion System)	1
3	Double-Wound Three-Phase Dry-Type Isolation Transformer	1
4	High-Voltage Ring Main Unit	1
5	Fire Suppression System	1
6	Temperature Control System	1
7	Cables and Others	1

Electrical Primary Diagram

The electrical primary diagram of the Medium-Voltage Converter Container is shown in Figure 2.

