ATLAS POWER
Draw on our energy

PRODUCT SPECIFICATION DOCUMENT

HP400 Module

Hybrid diesel-battery system with intelligent power balancing

Smart energy, always ready.

The HP 400 integrates battery storage with diesel generation in one intelligently managed system.Designed to reduce fuel consumption and emissions without compromising performance, it automatically switches between power sources to meet dynamic load demands. Ideal for construction, mining and remote operations, it delivers 400 kVA peak power while cutting runtime, noise, and service costs.

Applications

- Construction and mining sites
- Generator hybridisation
- Remote/off-grid infrastructure
- Backup and emergency power

Performance Highlights

- 400 kVA peak output
- Intelligent control algorithms optimise source usage
- Reduced diesel runtime and fuel use
- Extended service life of genset components
- Lower emissions and noise profile
- Seamless integration with renewables

Technical Specifications

Storage	
Cell chemistry	$LiFePO_4$
Battery management system	Automotive-grade BMS
Power	
Nominal power output	400 kVA
Continuous diesel support with battery smoothing	
Input capacity	148 kVA
Hybrid mode efficiency gains of up to 30%	
Discharge/recharge cycles optimised by smart controller	
Control & Monitoring	
Integrated hybrid energy management system	
Real-time performance monitoring and fuel savings reporting	
Remote diagnostics and control	
Interfaces with Atlas Management System	
Environmental	
Lower noise and particulate emissions	
Extended fuel autonomy	
Compatible with solar input and load prediction logic	
Mechanical	
Containerised and transportable	
Heavy-duty housing and weather protection	
Designed for tough job site conditions	

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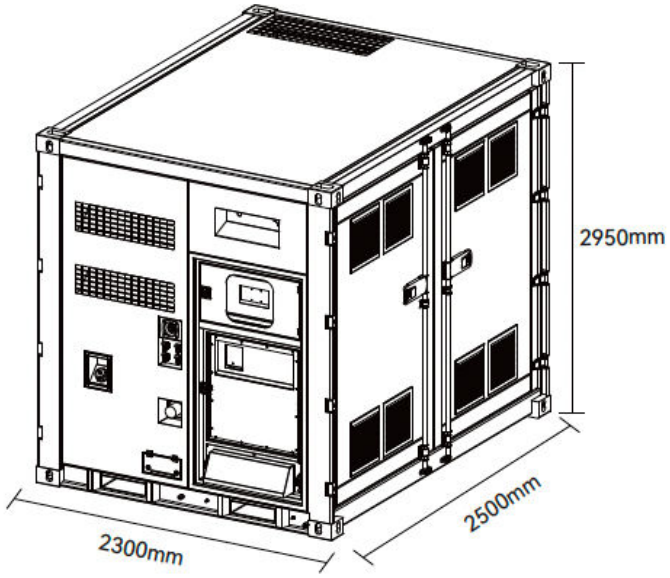
Technical Specifications

General Technical Data		
Peak power(5s)	320/400	kWe/kVA
Peak power(60s)	280/350	kWe/kVA
Standby power(1h)	240/300	kWe/kVA
Prime power(12h)	120/150	kWe/kVA
Continuous power	96/120	kWe/kVA
Step Load@PF1.0	220	kWe
Step Load@PF0.8	200	kWe
Rated voltage (3Phase 50Hz)	577	VAC
Maximum peak current(10s)	400	A
Rated current	433	A
Interface	Ethernet (Modbus-TCP/RTU)	/
Sound power level	72@7m 75%load	dB(A)
Operating temperature	-20-55°C (Derating over 50°C)	°C
Humidity	0-95%,no condensation	/
Maximum operating altitude	3000	m
Generator Set		
Standby power	132/165	kWe/kVA
Prime power	120/150	kWe/kVA
Frequency	50	Hz
Rated voltage (50Hz)	400	VAC
Maximum current	238	A
Rated current	216	A
Power factor	0.8	/
Cooling method	Water radiator cooling	/
Emission Compliance	Stage 3	/
Power Data based on Generator PF 0.8, Battery System PF -1.0~1.0		

Generator Set		
Fuel consumption @100% ESP load	206	g/kWh
Fuel consumption @100% PRP load	205	g/kWh
Fuel consumption @75% PRP load	226	g/kWh
Fuel consumption @50% PRP load	239	g/kWh



Battery Energy Storage System		
Nominal rated power	200	kVA
Nominal peak power(60s)	220	kVA
Nominal peak power(5s)	250	kVA
Nominal energy storage capacity	188.5	kWh
Rated voltage (3Phase 50Hz)	400	VAC
Nominal rated AC current	144	A
Max AC current(10s)	360	/
Power factor range	0 ind. ... 1 ... 0 cap	/
Nominal round trip efficiency(w/o HVAC)	up to 96%	%
Cell chemistry	LiFePO4	/
DoD% (depth of discharge)	90	%
Maximum charging power	90	kW
Lifespan (80% DoD)	7000	Cycles
Temperature control	Liquid cooling / PI heating film	/
Dimensions & Weight		
Dimensions (L x W x H)	2950*2300*2500	mm
Weight	4600	kg
Corrosion Protection	C3 (C5M)	/
Protection Class	IP43	/

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Energy Management System

Auto working mode

- Hybrid mode
- Micro-grid mode

Diesel Generator Management System (GMS)

- Short circuit, overcurrent, overvoltage, phase unbalance, lack of phase protection of generator sets.
- Maintenance reminder of diesel generator sets

Energy Storage Management System

- Overcharge, overdischarge, overcurrent, short circuit, phase imbalance and phase loss protection.
- Battery health check
- Battery temperature control
- Battery temperature protection
- Insulation detection

Other features

- Fuel Consumption Monitoring
- Energy Distribution Management
- Running Data Record

Scope of Supply

Canopy

- High strength structure, high IP protection 10GP container

Security

- Internal locker for batteries.
- Anti-theft hinges and door lockers.

Transportability

- Transport Efficiency: The design includes a lifting eye, skid frame with forklift pockets

Optionals

- Optional Colors

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