

Winter Series C&I ESS Solution

C&I Air-Cooled ESS



Safer

- LFP batteries
- System supports aerosol fire extinguishing
- Battery compartment with auto venting & explosion-proof



Multi-Fusion

- Integrated EMS, PCS, and BMS
- Support expansion of MPPT module
- support off-grid backup



Intelligent Control

- Thermal management keeps battery < 35°C
- Peak-valley management, anti-backflow overload protection
- Load tracking, demand control backup power, phase separation



Scalable

- Support up to 5 units off-grid backup maximum 500kW/1MWh
- Support up to 20 units on-grid in parallel maximum 2MW/4.3MWh
- Support up to 10 units off-grid in parallel maximum 1MW/2.15MWh



Reliable

- Operating temp :20°C to 50°C
- IP54 & C5 protection rating
- Operate up to 3000m altitude
- 1.1x overload capacity
- Balancing solutions extend battery life
- Triple auxiliary power design for stable supply

MS-G215-2H2/3/6 & MS-GS215-2H2/3/6 (EU, AU, AS, AF, LATAM)

Technical Data

PV Specification

MS-GS215-2H2

Out Rated Power (kW)	150 (dc)
Max. Input Voltage (V)	1000
Start Voltage (V)	200
MPPT Voltage Range (V)	180 ~ 880
Full Load Voltage Range (V)	450 ~ 850
Number of MPPT	8 pcs
MPPT Max.Current/Short Current (A)	40 / 60
Dimension (WxDxH,mm)	440 x 610 x 178
Weight Appr.(kg)	32

System Specification

MS-G215-2H2 / MS-GS215-2H2

AC Output Power (kW)	100
AC Output Frequency and Voltage	50/60Hz;380 / 400Vac
Grid Type	3L / N / PE
Battery Operating Voltage (Vd.c.)	660 ~ 864
Energy (kWh)	215
Dimension (Wx D x H,mm)	1865 x 1000 x 2500
Weight Appr. (kg)	2700
Max. RTE	88%
System Communication	ETH / 4G
System Operating Temperature Range (°C)	-20~50 (>45 Derating)
Max. Working Altitude (m)	≤3000
IP Rating of Enclosure	IP54
Anti-Corrosion Grade	≤C5
System Certification	UN38.3, IEC, CEC, VED, CEI
Warranty Period	10 years

Converter Specification

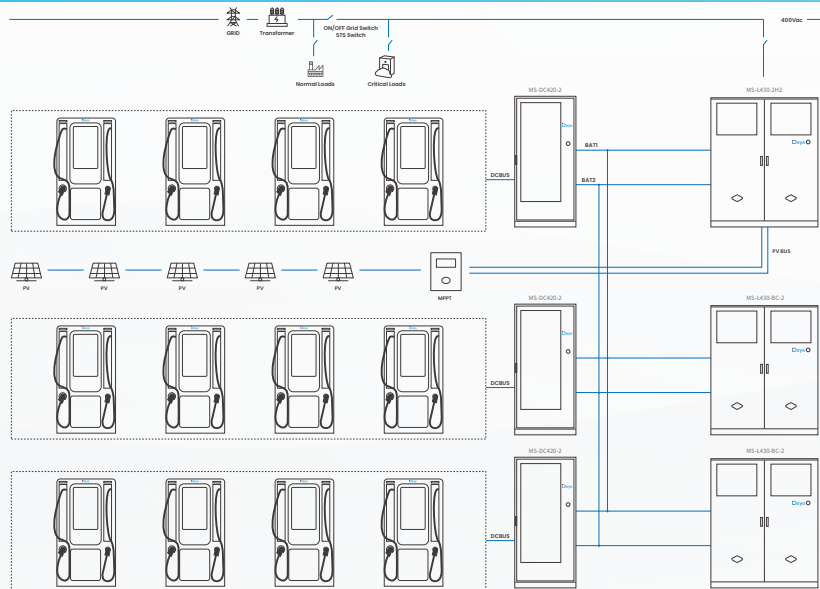
MS-G215-2H2 / MS-GS215-2H2

AC Output Rated Current (A)	152
Max.AC Output Current (A)	167
Max.Number of Parallel (off-grid)	10 pcs (off-grid)
Peak Power	1.1 times of rated power
Power Factor	-1~1
THD	<3%
DC Injection Current	<0.5in
Display	LCD
Relative Humidity	15%-85% (No Condensing)
Dimension (W x D x H,mm)	506 x 772 x 310
Communication	CAN,RS485,ETH
Overvoltage Protection	DC Type II / AC Type II
Protection Level	Class 1
Grid Regulation	EN50549,AS4777.2,CEI0-21,CEI-016,NRS097
Max. Efficiency	97.6%

Winter Series C&I PV-BESS-EV Charging Integrated Solution



Versatile C&I Energy Storage Solutions



MS-L430 Series



Intelligent Cloud Platform

- Customizable load algorithmic modules
- 24-hour online O&M
- Battery life and safety warning
- Device cloud interconnection



Multiple Application Scenarios

- New energy vehicle charging capacity expansion
- Peak-to-Valley arbitrage/Peak-to-Valley shifting
- Virtual power plant ready
- Off-grid operation (Islands, communication base stations, etc.)



Ultimate Safety

- Self-contained fire protection system
- Explosion-proof safety protection system
- Five-level electrical safety protection
- High-voltage interlocking, preventing loaded arc operation



Versatile Expansion

- PCS/BMS/EMS All-in-one modular design
- Support up to 10 cabinets in parallel
- Support 2-hour, 4-hour energy storage applications
- Higher energy density to reduce footprint

C&I ESS Solution

Model	MS-L430-2H2 (AC BESS)		MC-L430-2H2 (AC BESS)
System Parameters			
Operating Temperature	-25°C ~ +55°C		
Storage Temperature	-30°C ~ +60°C		
Humidity	0 ~ 95% (No condensation)		
Type of cooling	Liquid cooling		
Fire Suppression	Aerosol, Water		
Ingress Protection	IP54		
Anticorrosion grade	≥C4		
Altitude	≤2000m		
Communication	RS485, Modbus TCP, DIDO		
Weight	≤4600kg		
Dimensions (W × D × H)	2000 × 1300 × 2480mm		2000 × 1219× 2480mm
DC Data			
Battery	LiFePO ₄		
Nominal Capacity	280Ah		
Nominal Energy	430.08kWh		
Nominal DC Voltage	768Vd.c.		
DC Voltage Range	636Vd.c ~ 876Vd.c.		
Charge and discharge rate	charge 0.5P, discharge 1P		
AC Data			
Nominal AC Voltage	380/400V 3L+N+PE		
Rated Frequency	50 / 60Hz		
Rated Power	200kW		
Maximum Power	220kW (1.1 times of rated power)		
Power Factor	-0.8 ~ +0.8		

Winter Series Utility-Scale ESS Solution

Air-Cooled ESS



Advanced Safety

- 2-hour fire resistance
- Combustible gas detection, smoke evacuation, aerosol extinguishers, water sprinklers



Integrated Technology

- LC, PCS, MPPT, and battery integrated
- EMS for system management
- ATS for on/off-grid switching
- 1MW PCS output, 16 MWp solar input
- System energy capacity: 2057 kWh
- System size and weight: 20ft, 25,000 kg



Applications

- Support black start function
- Support off-grid operation & back up
- Support peak shaving
- Transformer capacity control



Performance

- Supports 1.1x continuous overload, and 1.5x overload for up to 10s
- Max RTE: 88.5%
- System Operating Conditions :
 - -20°C ~ 50°C | IP54 | C4-M
- Supports 2 PCS & 2 MW off-grid

WS-G2000-2H3/WS-GS2000-2H3 (AS, AF, LATAM)

Technical Data

AC Parameters

Rated power	1000kW
Max. Apparent Power	1100kVA
Rated Voltage/Range	400V/0.85Un-1.1Un
Grid Connection Form	3L+N+PE
Frequency/Range	50Hz/45Hz-55Hz
Power Factor Adjustment Range	0.8 leading-0.8lagging
Total Current Harmonic Distortion (THDi)	<3% (of Rated power)
DC Injection Current	<0.5% In
Max.RTE	88.50%

PV Parameters

Max. PV Input Power	1600kW(200kW*8)
Max. PV Input Voltage	1000Vdc
Start-up Voltage	200Vdc
MPPT Voltage Range	180-850Vdc
Full Load MPPT Voltage Range	450-850Vdc
Rated PV Input Voltage	600Vdc
Max. Operating PV Input Current	40A
Max. Input Short-Circuit Current	60A
No. of MPP Trackers	8*8
MPP Trackers of String PV panel	2*20A or 3*13A
Max. Efficiency	>88.5%

Battery Parameters

Cell type	LiFePO ₄
Battery configuration	256S1P*8
Battery energy	2057kWh
Battery voltage range	691.2-921.6Vdc

Other Parameters

Fire protect system	Gas fire protection+Water fire protection
cooling type	Smart Air Cooling
Communication port	RJ45
Communication protocol	Modbus TCP, IEC104, IEC61850
Operating ambient	-20~50 °C
Humidity	0%-90%RH
Altitude	3000m
IP rating of enclosure	IP54
anti-corrosion level	C4-M
seismic grade	Moderate performance level (0.5g)
Dimension (W/D/H,mm)	20ft (HC)
Weight approximate (kg)	25000kg
Installation Location	Floor-mounted
Recommend storage temperature (°C)	0-35
Cycle Life	25±2°C,0.5P, EOL70%≥8000
Warranty Period	10years

Winter Series Utility-Scale ESS Solution

Liquid - Cooled ESS

WS-L4300-2H3 (AS, AF, LATAM) / WS-L4300-2H2 (EU) WS-PCS2250-2 (AS, AF, LATAM, EU)



Cluster Management

- One cluster management, high availability, more friendly to the cell



Extreme Safety

- 5 Levels of fire protection (Fire detection, early warning, exhaust, fire fighting, explosion)
- 2 levels of electrical active protection and 3 levels of electrical passive protection



High Energy Density

- 4300kWh in 20' BESS container
- 2250kW PCS, 3600kW P_v input in 10' container



Highly Integrated

- BESS, PV DC coupling
- EMS, PCS, MPPT All in one container
- Black start function, on-grid and off-grid application

UTILITY-SCALE ESS Solution

