

C&I ESS SOLUTION

DEYE WINTER MS SERIES



Intelligent Cloud Platform

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



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 8 cabinets in parallel
- Support 2-hour, 4-hour energy storage applications
- Higher energy density to reduce footprint



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.)

5 Level

Extreme
safety protection

Detection, early warning,
smoke exhaust, fire fighting,
explosion venting

10ms

Seamless
on-grid and off-grid

10 Years

10-year warranty
10-year free replacement
of coolant

420kW

DC fast charging
DC coupling for
ESS and charging



Model MC-L430-2H3 (AC BESS)

System parameter

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
Active Balancing Function	No

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	0.5P

AC Data

Nominal AC Voltage	380/400V 3L+N+PE
Rated Frequency	50 / 60Hz
Rated Power	200kW
Maximun Power	220kW (1.1 times of rated power)
Power Factor	-0.8 ~ +0.8



Model	MC-L430-BC-3 (DC BESS)
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System parameter	
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Operating Temperature	-30℃ ~ +55℃
Storage Temperature	-30℃ ~ +60℃
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	≤4300kg
Dimensions (W × D × H)	2000 × 1300 × 2480mm
Active Balancing Function	No

DC Data	
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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	0.5P

Model		MS-MPPT400-2
System parameters		
Dimension (W × D × H, mm)		1000 × 1000 × 2480
Weight Appr. (kg)		≤700kg
System Operating temperature range		-30°C ~ 50°C
Max. working altitude (m)		≤2000m
IP Rating of Enclosure		IP54
STS parameters		
Rated insulation voltage (V)		DC1000
Rated working voltage (V)		AC400
Auxiliary equipment operating voltage (V)		AC220, DC24
Frequency		50/60Hz
Rated power of load (kW)		250
Rated power of the power grid (kW)		500
Rated power of oil engine (kW)		500
Switching Time		≤15ms
MPPT parameters		
Max. PV Input Power (kW)		200
Max. PV Input Voltage (V)		1000
Start-up Voltage (V)		200
MPPT Voltage Range (V)		180 ~ 850
Full Load MPPT Voltage Range (V)		450 ~ 850
Rated PV Input Voltage (V)		600
Max. Operating PV Input Current (A)		40+40+40+40+40+40+40+40
Max. Input Short-Circuit Current (A)		60+60+60+60+60+60+60+60
No.of MPP Trackers		8
Max. Efficiency		>99%
MPPT Efficiency		>99.9%



AI Intelligence

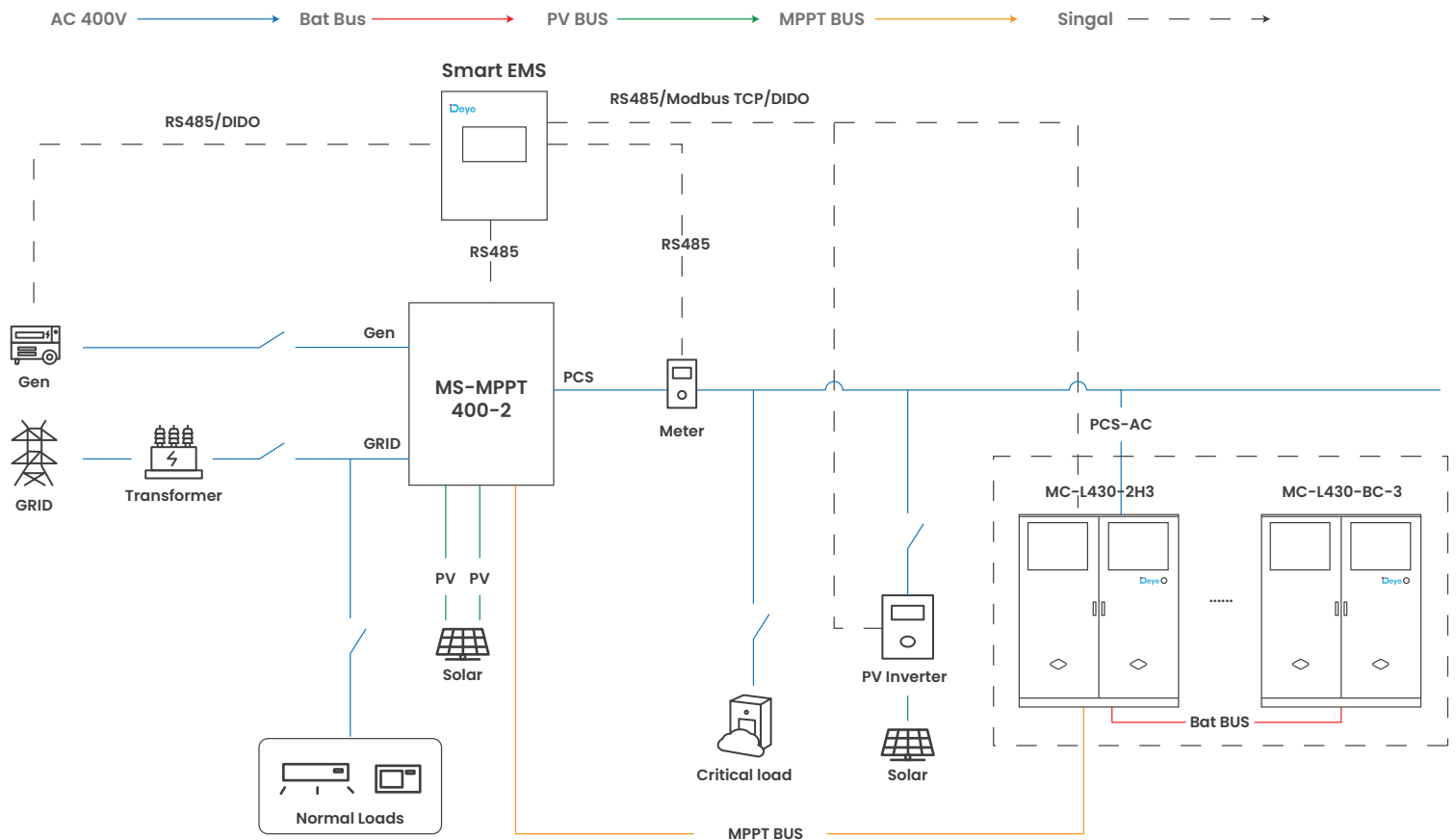
- Large capacity energy aggregation
- Real-time electricity price revenue calculation
- One click generation of statistical charts
- Maximum profit charging and discharging strategy

Efficient Operation and Maintenance

- Provide local / cloud operation and maintenance to ensure stable device operation
- Combination of multiple operation and maintenance methods for WEB / APP

Safe and Reliable

- Real-time alarm for equipment malfunction
- Support SOC balance management

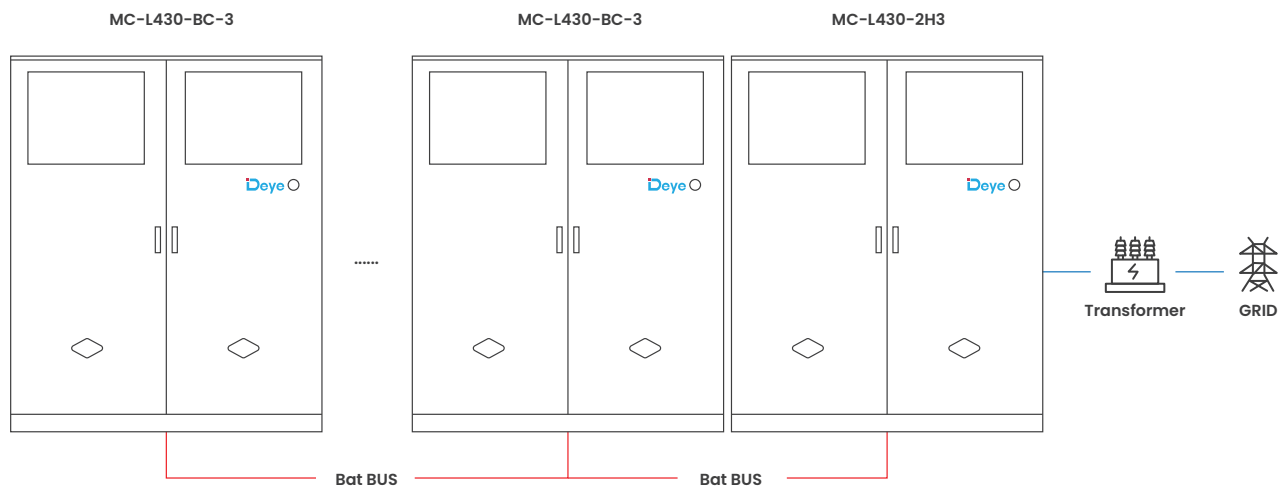


Model		MS-EMS
System		
Configuration	EMS controller, lightning protection module, switch power supply, UPS module, switch	
Single Point Access Capacity	Energy storage : ≤ 3.44MWh Photovoltaic : ≤ 1.6MWp	
Function	Basic functions : peak valley arbitrage, anti backflow, main transformer overload protection, load tracking, demand control, backup power function, phase separation control, SOC balancing, Deye Cloud monitoring Advanced features : load forecasting, production planning, electricity price planning, optimal economic curv	
Communicate		
Ethernet (5 channels)	10 / 100 / 1000 Mbps	
Guangkou (2 channels)	1Gbps	
USB (2 channels)	Host	
CAN (3 channels)	Isolation, with 2 channels supporting CAN-FD	
RS485 (8 channels)	Isolation	
RS232 (3 channels)	2 isolated channels, 1 non isolated debugging channel (DB9 socket)	
TF Card (1 channel)	Standard TF card holder	
LVDS (1 channel)	The physical interface is DVI (including 1 USB for touch)	
M. 2 Interfaces (1 channel)	PCIe2.0 X1, Scalable SSD (standard 1TB)	
MiniPCle Interface (1 channel)	4G card with expandable USB communication protocol (standard)	
Nano SIM Interface (1 channel)	Used in conjunction with the miniPCle expansion 4G module	
DI (17 channels)	Optocoupler isolation	
DO (8 channels)	Relay isolation	
WLAN	802.11 b / AC g n, HT 20 / 40, 2.4 GHz 5 Ghz	
4G Antenna	Support multi country frequency bands	
Power Supply		
Communication Input	220Vac	
DC IN	24Vdc	
UPS Backup Power	24Vdc	
Consumption	Max 25W	
Environmental parameters		
Operation Temperature	-15°C ~ +50°C	
Storage Temperature	-15°C ~ +50°C	
Working Humidity	5% ~ 95%	
Max. Working Altitude (m)	≤3000m	
IP Rating of Enclosure	IP54	
Anti-Corrosion Grade	≥C4	
Mechanical parameters		
Dimension (W × D × H, mm)	488 × 188 × 588	
Weight Appr. (kg)	≤24.5kg	
Installation Location	Indoor or outdoor, wall-mounted	
Box Material	Metal	
Incoming Specifications	AC power cord : Recommended wire diameter 1.5mm² DC power cord : Recommended wire diameter of 1.5mm² Eight core Ethernet cable: Recommended CAT5e Ethernet cable RS485 : Recommended 0.75mm²~1.5mm² outdoor UV protection with shielding layer twisted pair cable length<1000m (baud rate 9600)	

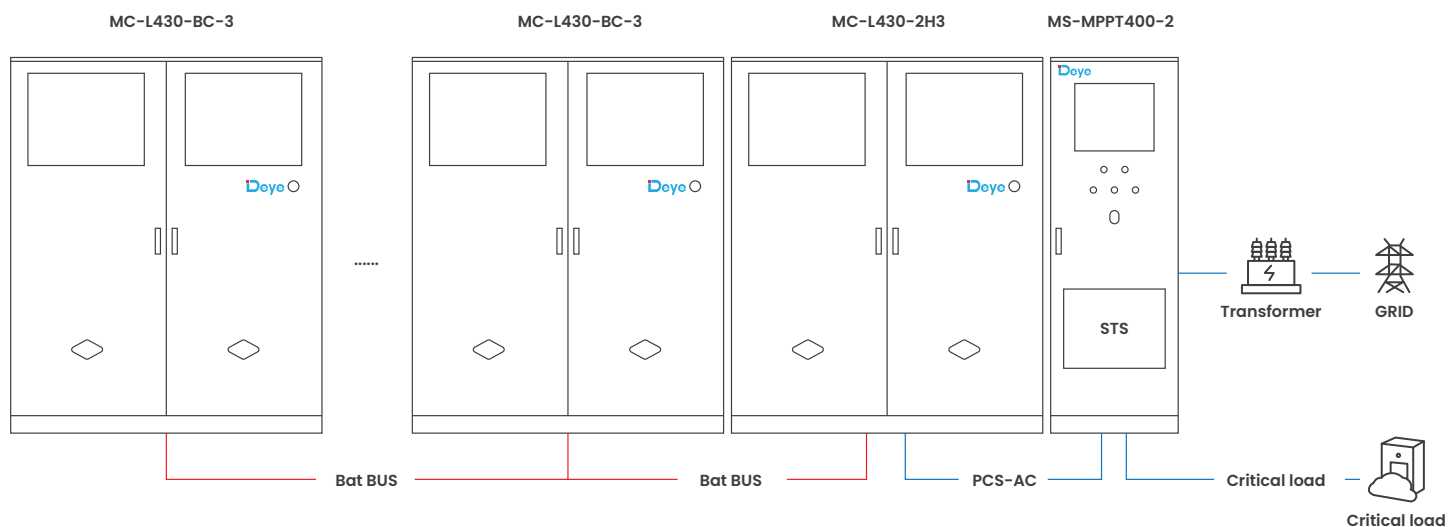
NOTE: MAX 3 battery cabinets (without PCS) parallel

AC 400V ——— Bat Bus ——— PV BUS ——— MPPT BUS ———

For ESS on-grid application



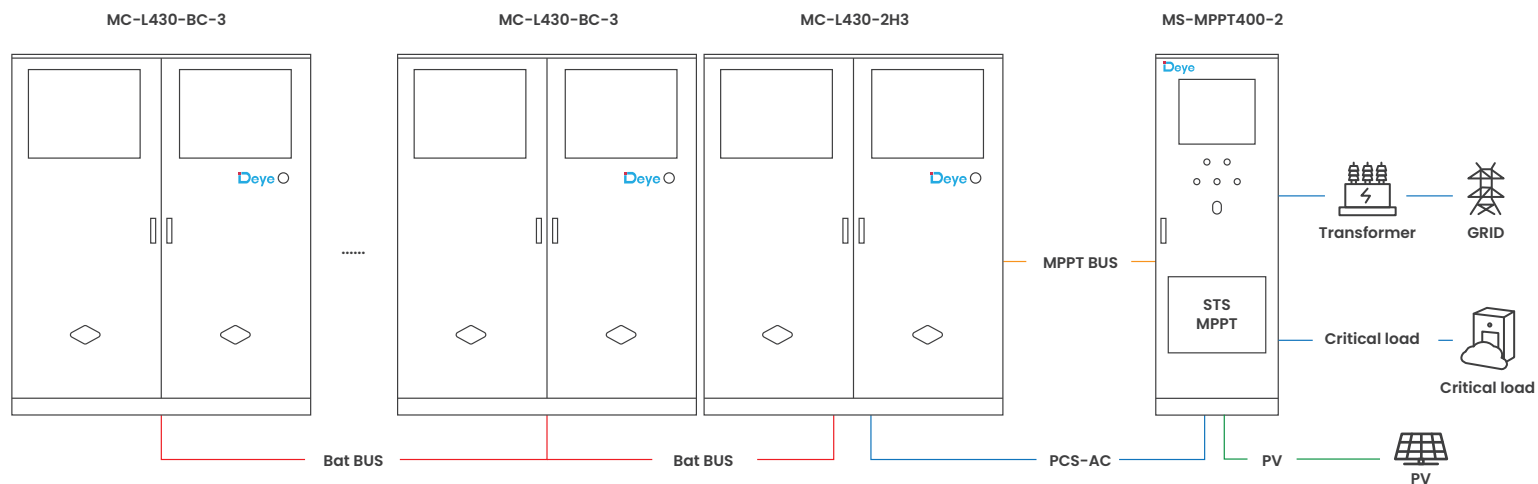
For backup power application



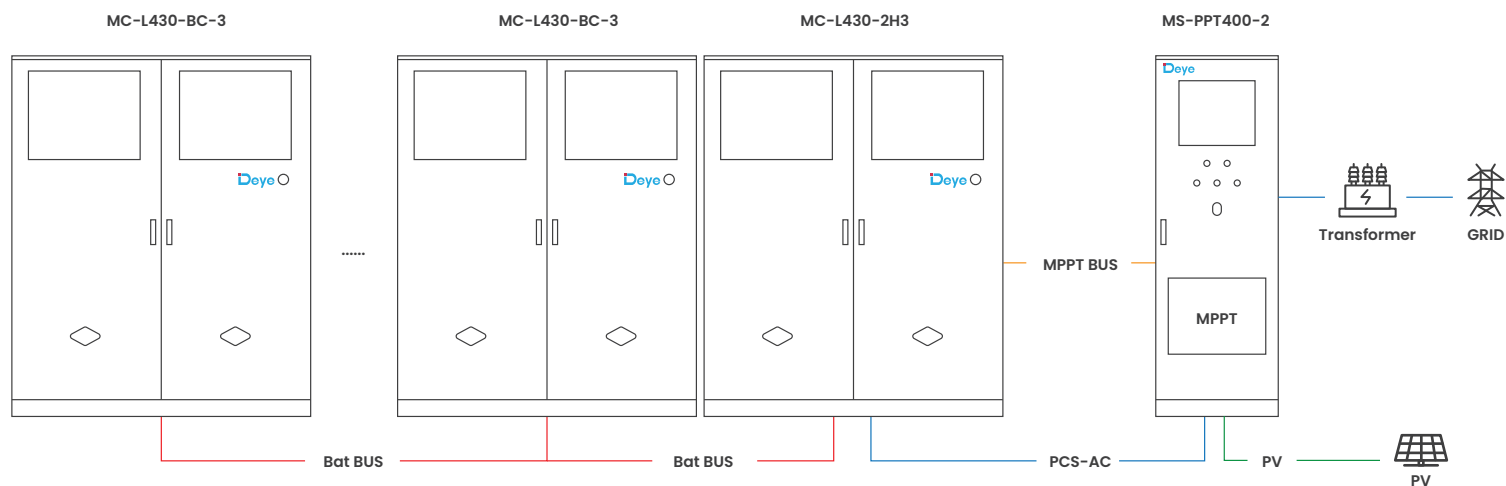
NOTE: MAX 3 battery cabinets (without PCS) parallel

AC 400V ——— Bat Bus ——— PV BUS ——— MPPT BUS ———

For backup power application with solar



For ESS on-grid application with solar



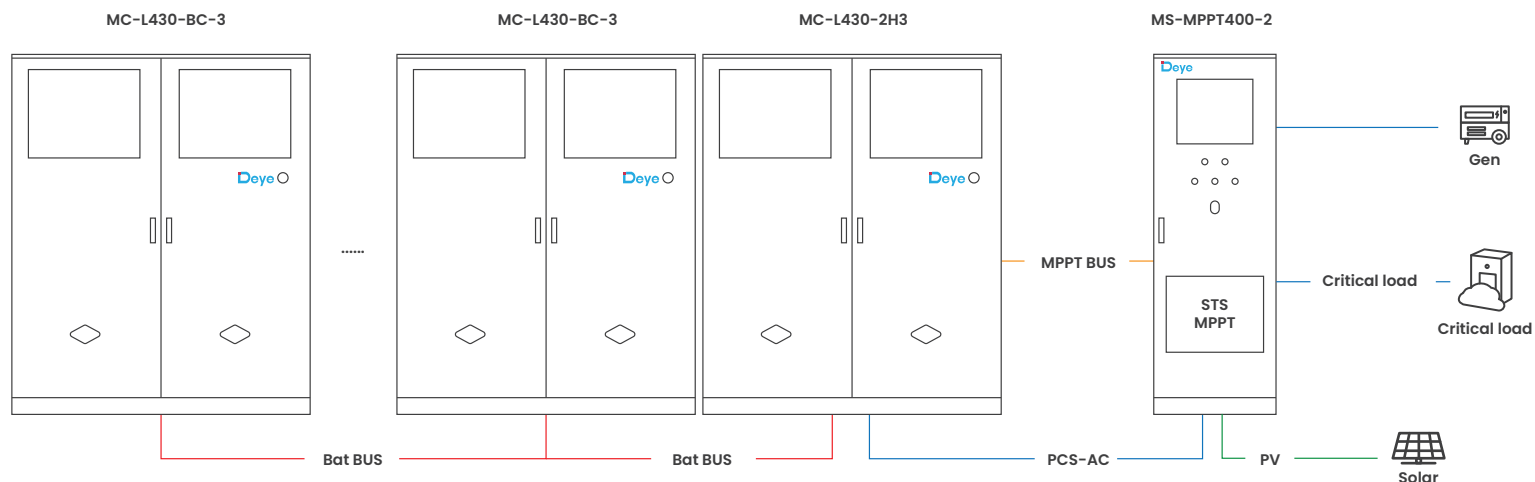
AC 400V — Bat Bus — PV BUS — MPPT BUS —

The figure illustrates two typical system configurations for the Deye Energy Storage System. Both configurations consist of three MC-L430-BC-3 battery cabinets connected to an MS-MPPT400-2 inverter. The inverter is connected to a Gen (generator), Transformer, GRID, and Critical load. The bottom configuration also includes a PV (solar) input connected to the inverter.

NOTE: MAX 3 battery cabinets (without PCS) parallel

AC 400V ——— Bat Bus ——— PV BUS ——— MPPT BUS ———

For ESS off-grid application with solar and generator



For ESS off-grid application with solar

