

C&I ESS SOLUTION

DEYE WINTER MC SERIES



Intelligent Cloud Platform

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



Ultimate Safety

- ⊙ 3+2 Fire Protection System
- ⊙ 3+3 Electrical Safety Safeguards
- ⊙ AC Leakage & DC Insulation Detection
- ⊙ 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 2/4/6/8-hour energy storage applications
- ⊙ Higher energy density to reduce footprint
- ⊙ PV and BESS DC Coupling



Multiple Application Scenarios

- ⊙ 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

430kWh

2/4/6/8-hour energy storage system

| PCS Model | SUN-100K-PCS01HP3 |
|---|---|
| Battery Data | |
| Battery Type | Lithium-ion |
| Battery Voltage Range (V) | 630-1000 |
| Max. Charging Current (A) | 175 |
| Max. Discharging Current (A) | 175 |
| Charging Strategy for Li-ion Battery | Self-adaption to BMS |
| Number of Battery Input | 1 |
| DC Input Data | |
| DC Input Voltage Range(V) | 630-1000 |
| Max. DC Input Current(A) | 200 |
| AC Input/Output Data | |
| Rated AC Input/Output Active Power (kW) | 100 |
| Max. AC Input/Output Apparent Power (kVA) | 110 |
| Rated AC Input/Output Current (A) | 151.6/145 |
| Max. AC Input/Output Current (A) | 166.7/159.5 |
| Rated Input/Output Voltage/Range(V) | 220/380, 230/400 0.85Un-1.1Un |
| Grid Connection Form | 3L+N+PE |
| Rated Input/Output Grid Frequency/Range | 50Hz/45Hz-55Hz 60Hz/55Hz-65Hz |
| Power Factor Adjustment Range | -1~1 |
| Total Current Harmonic Distortion THDi | <3% (of nominal power) |
| DC Injection Current | <0.5% In |
| Efficiency | |
| Max. Efficiency | 98.5% |
| Euro Efficiency | 97.8% |
| MPPT Efficiency | >99% |
| Equipment Protection | |
| Integrated | AC Output Overcurrent Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, Thermal Protection, Anti-islanding Protection, Insulation Impedance Detection, Residual Current Detection |
| Surge Protection Level | TYPE II(DC), TYPE II(AC) |
| Interface | |
| LCD/LED display | LCD |
| Communication Interface | WIFI, RS485, CAN, Meter |
| General Data | |
| Operating Temperature Range(°C) | -40°C-60°C, >45°C Derating |
| Permissible Ambient Humidity | 0-95% |
| Permissible Altitude | 4000m |
| Noise | <75dB |
| Ingress Protection(IP) Rating | IP 65(PCS Module) |
| Cabinet Size[W×H×D] (mm) | 543x310x775 |
| Weight (kg) | 70.35 |
| Inverter Topology | Non-Isolated |
| Over Voltage Category | OVC II(DC), OVC III(AC) |
| Type of Cooling | Intelligent Air Cooling |
| Grid Regulation | IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105 |
| Safety/EMC Standard | IEC/EN 62477-1 |



Model **MC-L430-2H2 (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 | 5000kg |
| Dimensions (W × D × H) | 2000 × 1300 × 2480mm |

DC Data

| | |
|---------------------------|---------------------|
| Battery | LiFePO ₄ |
| Nominal Capacity | 280Ah |
| Nominal Energy | 430.08kWh |
| Nominal DC Voltage | 768Vd.c. |
| DC Voltage Range | 648~876Vd.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 | -1~+1 |



Model **MC-L430-BC-2 (DC BESS)**

System parameter

| | |
|--------------------------|-----------------------------|
| Operating Temperature | -30°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 | ≤4700kg |
| Dimensions (W × D × H) | 2000 × 1300 × 2480mm |

DC Data

| | |
|---------------------------|---------------------|
| Battery | LiFePO ₄ |
| Nominal Capacity | 280Ah |
| Nominal Energy | 430.08kWh |
| Nominal DC Voltage | 768Vd.c. |
| DC Voltage Range | 648~876Vd.c |
| Charge and discharge rate | 0.5P |

| Model | MS-MPPT400-2 |
|---|-----------------------------|
| System parameters | |
| Dimension (W × D × H, mm) | 1000 × 1000 × 2450 |
| Weight Appr. (kg) | ≤950kg |
| System Operating temperature range | -30°C ~ 50°C |
| Max. working altitude (m) | ≤2000m |
| IP Rating of Enclosure | IP54 |
| STS parameters | |
| Rated working voltage (V) | AC400 |
| Auxiliary equipment operating voltage (V) | AC220, DC24 |
| Frequency | 50/60Hz |
| Rated power of load (kW) | 400 |
| Rated power of the power grid (kW) | 400 |
| Rated power of oil engine (kW) | 400 |
| Switching Time | ≤10ms |
| MPPT parameters | |
| No. of MPPT | 2 |
| MAX.PV Access Power(kW) | 400(200*2) |
| Max. PV Input Power (kW) | 320(2*160) |
| Max. PV Input Voltage (V) | 800 |
| Start-up Voltage (V) | 200 |
| Rated PV Input Voltage (V) | 600 |
| Max. Operating PV Input Current (A) | 2*(40+40+40+40+40+40+40+40) |
| Max. Input Short-Circuit Current (A) | 2*(60+60+60+60+60+60+60+60) |
| No.of MPP Trackers | 16 (2*8) |
| Max. Efficiency | >99% |
| MPPT Efficiency | >99.9% |



MS-MPPT200-2

| Model | MS-MPPT200-2 |
|---|-------------------------|
| PV String Input Data | |
| MAX.PV Access Power(kW) | 200 |
| Max. PV Input Power (kW) | 160 |
| Max. PV Input Voltage (V) | 800 |
| Start-up Voltage (V) | 200 |
| MPPT Voltage Range (V) | 180-750 |
| Full Load MPPT Voltage Range (V) | 450-750 |
| 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 |
| Efficiency | |
| Max. Efficiency | >99% |
| MPPT Efficiency | >99.9% |
| Equipment Protection | |
| DC input reverse protection | YES |
| DC ARC protection | Optional |
| Anti-PID(Potential Induced Degradation) | Optional |
| DC Switch | YES |
| Surge Protection Level | TYPE II |
| General Data | |
| Ingress Protection(IP) Rating | IP20(MPPT IP65) |
| Cabinet Size[W×H×D] (mm) | 543x198x700 |
| Weight (kg) | 70 |
| Type Of Cooling | Intelligent air cooling |
| Safety EMC/Standard | IEC/EN 62109-1 |
| DC Output Data | |
| DC Output Voltage Range(V) | 630-1000 |
| Max. DC Output Current(A) | 200 |



AI Intelligence

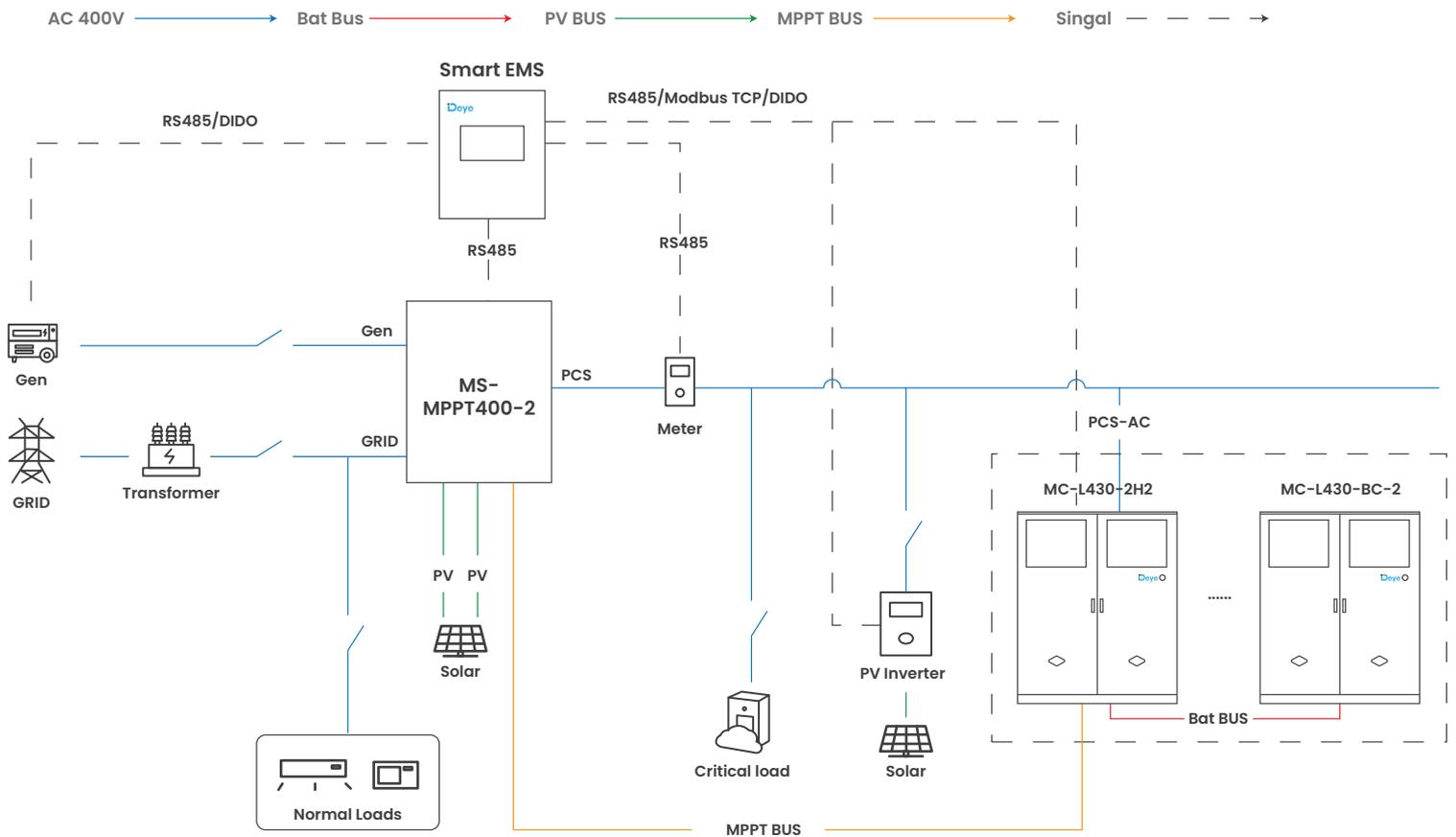
- Large capacity energy aggregation
- Real-time electricity price revenue calculation
- One click generation of statistical charts
- Maximum profit charging and discharging strategy

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

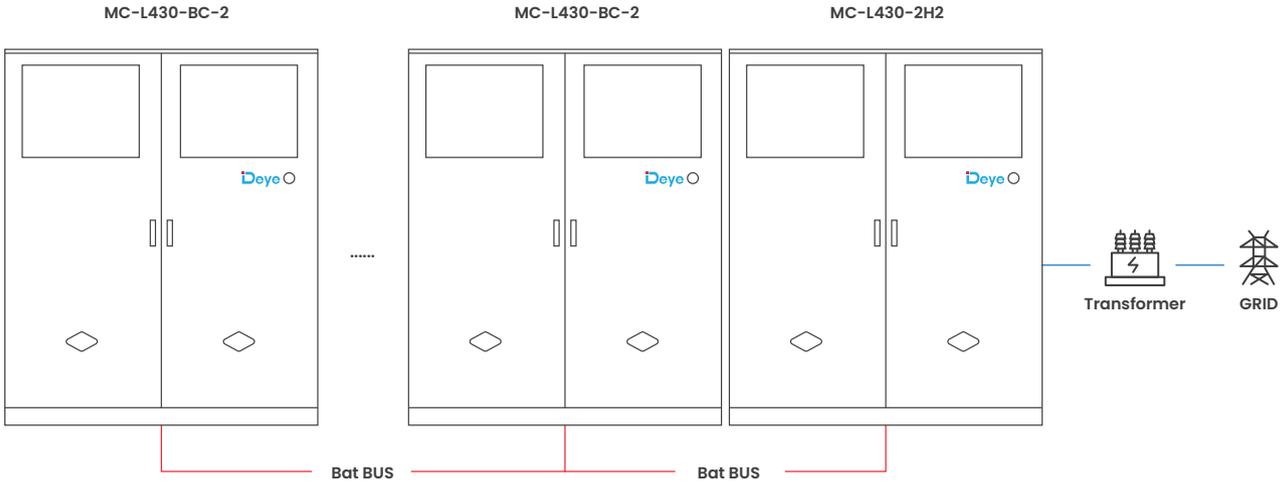


| Model | MS-EMS |
|----------------------------------|--|
| System | |
| Configuration | EMS controller, lightning protection module, switch power supply, UPS module, switch |
| Function | <p>Basic functions : peak valley arbitrage, anti backflow, main transformer overload protection, load tracking, demand control, backup power function, phase separation control, SOC balancing, Deye Cloud monitoring</p> <p>Advanced features : load forecasting, production planning, electricity price planning, optimal economic curv</p> |
| Communicate | |
| Ethernet (5 channels) | 10 / 100 / 1000 Mbps |
| Fiber optic port (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) |
| MiniPCIe Interface (1 channel) | 4G card with expandable USB communication protocol (standard) |
| Nano SIM Interface (1 channel) | Used in conjunction with the miniPCIe 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 | <p>AC power cord : Recommended wire diameter 1.5mm²</p> <p>DC power cord : Recommended wire diameter of 1.5mm²</p> <p>Eight core Ethernet cable: Recommended CAT5e Ethernet cable</p> <p>RS485 : Recommended 0.75mm²~1.5mm² outdoor UV protection with shielding layer twisted pair cable length<1000m (baud rate 9600)</p> |

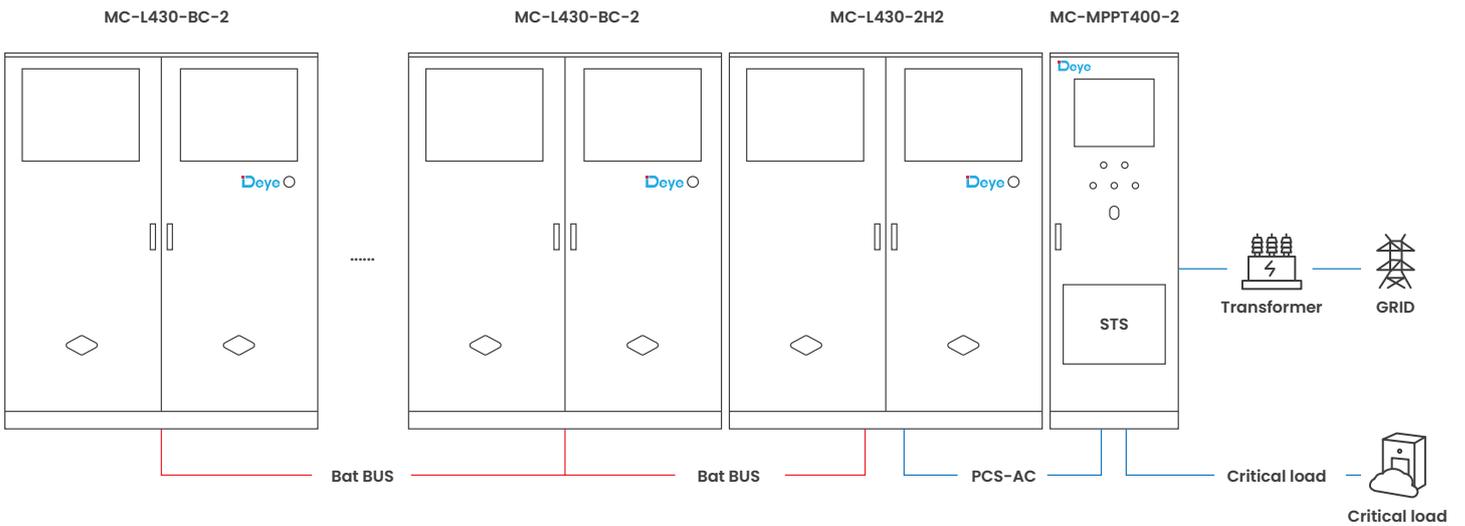
NOTE: MAX 3 battery cabinets (without PCS) parallel

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

For ESS on-grid application



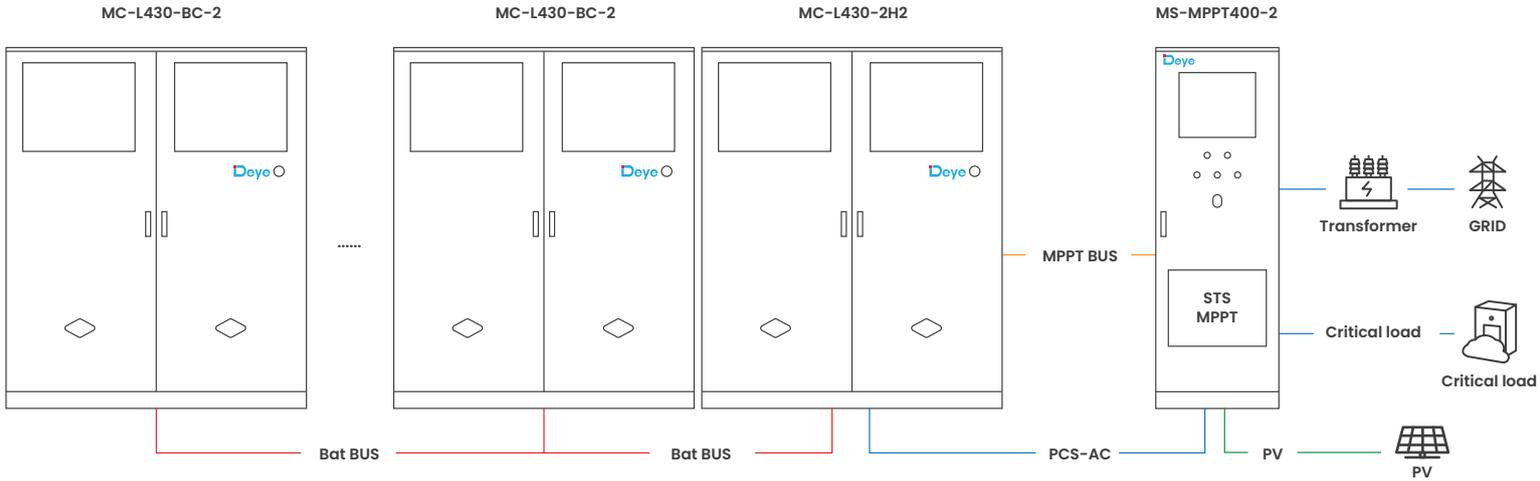
For backup power application



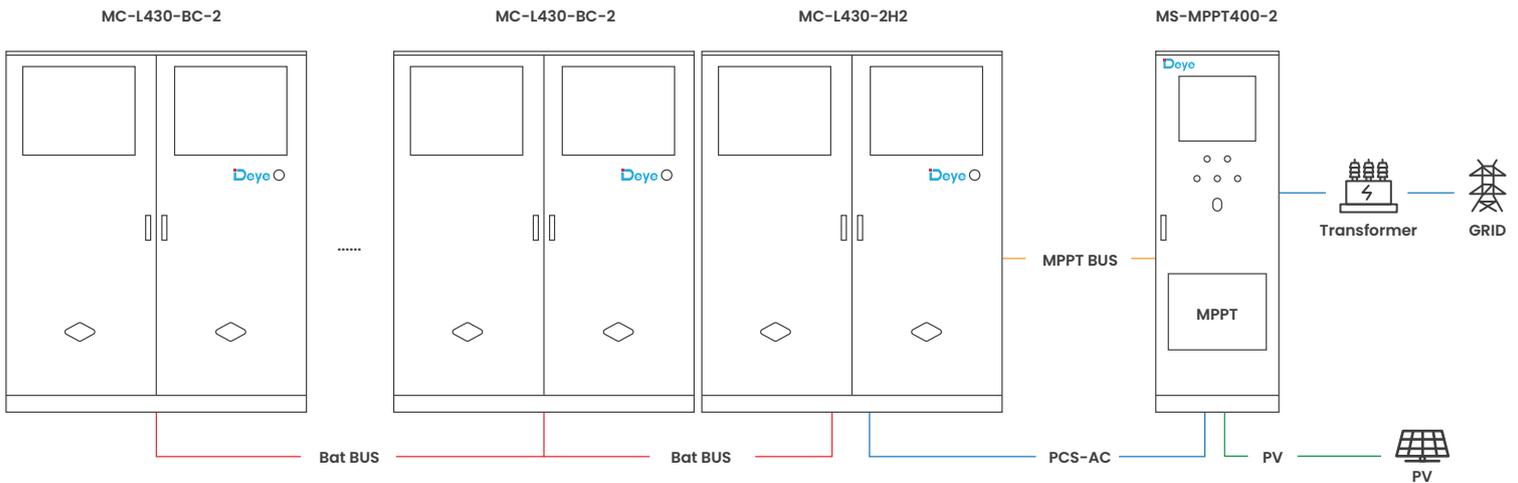
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AC 400V ——— Bat Bus ——— PV BUS ——— MPPT BUS ———

For backup power application with solar



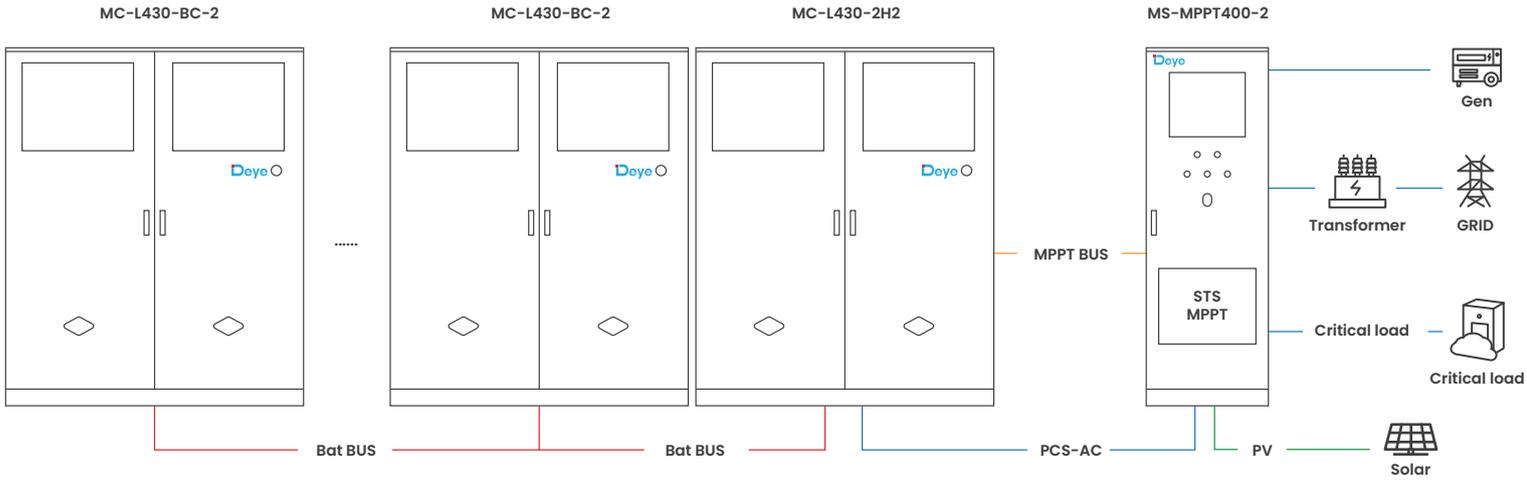
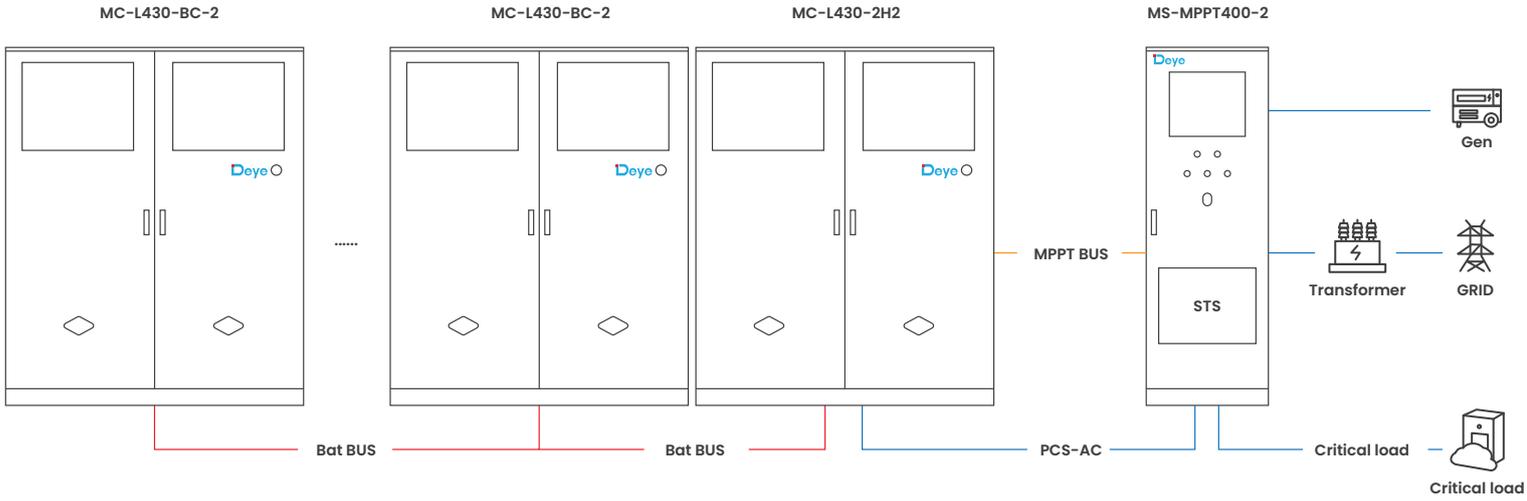
For ESS on-grid application with solar



NOTE: MAX 3 battery cabinets (without PCS) parallel

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

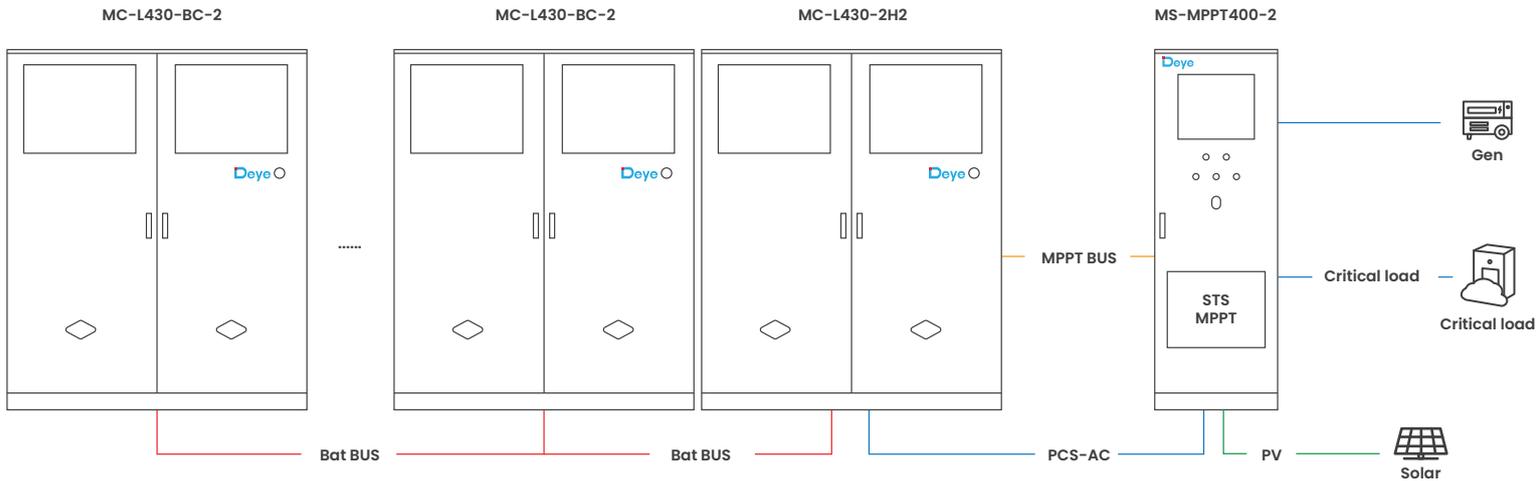
For backup power application with generator and grid



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

