



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



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



Ultimate Safety

- 3+2 Fire Protection System
- 3+3 Electrical Safety Safeguards
- AC Leakage & DC Insulation Detection
- High-voltage interlocking, preventing loaded arc operation



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

522kWh

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

C&I ESS Solution	
PCS Model	SUN-125K-PCS01HP3
Battery Data	
Battery Type	Lithium-ion
Battery Voltage Range (V)	630-1000
Max. Charging Current (A)	200
Max. Discharging Current (A)	200
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)	125
Max. AC Input/Output Apparent Power (kVA)	125
Rated AC Input/Output Current (A)	189.4/181.2
Max. AC Input/Output Current (A)	189.4/181.2
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)	-25°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

C&I ESS Solution



ModelMC-L522-2H2/3 (AC BESS)

System parameter

Operating Temperature	-30℃ ~ 55℃(≥40℃ Derating)
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	≤3000m
Communication	RS485, Modbus TCP, DIDO
Weight	≤5500kg
Dimensions (W × D × H)	2000X1400X2440mm

DC Data

Battery	LiFePO ₄
Nominal Capacity	314Ah
Nominal Energy	522.496kWh
Nominal DC Voltage	832Vd.c.
DC Voltage Range	715~936Vd.c
Charge and discharge rate	0.5P

AC Data

Nominal AC Voltage	380/400V 3L+N+PE
Rated Frequency	50 / 60Hz
Rated Power	250kW
Maximun Power	250kW
Power Factor	-1~1

C&I ESS Solution



Model

MC-L522-BC-2/3 (DC BESS)

System parameter

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	≤3000m
Communication	RS485, Modbus TCP, DIDO
Weight	≤5100kg
Dimensions (W × D × H)	2000*1400*2190mm

DC Data

Battery	LiFePO ₄
Nominal Capacity	314Ah
Nominal Energy	522.496kWh
Nominal DC Voltage	832Vd.c.
DC Voltage Range	715~936Vd.c
Charge and discharge rate	0.5P



MS-MPPT400-2

Model		MS-MPPT400-2
System parameters		
Dimension (W × D × H, mm)		1000 × 1000 × 2450
Weight Appr. (kg)		≤950kg
System Operating temperature range		-30°C ~ 45°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%



WS-TS1000-2-A

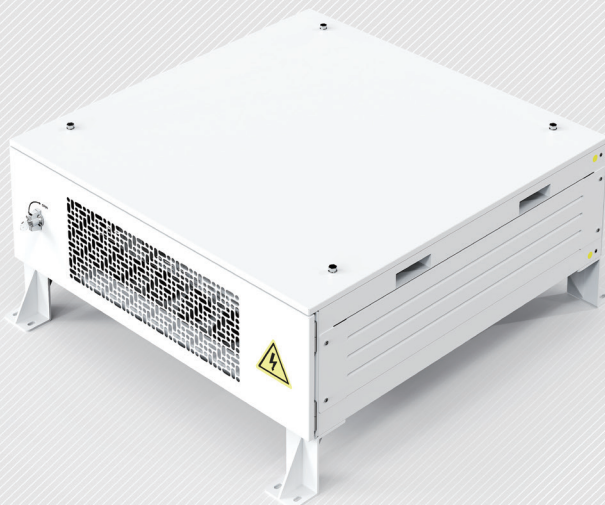
Model	WS-TS1000-2-A	
Grid Side Data		
Rated AC Input/Output Active Power (kw)		1000
Rated AC Input/Output Current(A)		1450
Rated input/Output Voltage(V)		220/380,230/400 (three phase)
Grid Connection Form		3L/N/PE
Rated input/Output Grid Frequency		50Hz/60Hz
Load Side Data		
Rated AC Input/Output Active Power(kw)		1000
Rated AC Input/Output Current		1450
Rated Input/Output Voltage(V)		220/380,230/400(three phase)
Grid Connection Form		3L/N/PE
Rated input/Output Grid Frequency		50Hz/60Hz
GEN Side Data		
Rated AC Input/Output Active Power (kW)		1000
Rated AC input/Output Current(A)		1450
Rated Input/Output Voltage(V)		220/380,230/400 (three phase)
Grid Connection Form		3L/N/PE
Rated input/Output Grid Frequency		50Hz/60Hz
System Data		
Dimension (W x D x H, mm)		2000 × 1200 × 2450mm
Weight Appr. (kg)		1600
System Operating temperature range		-20℃ ~ 55℃
Max. working altitude (m)		≤3000
IP Rating of Enclosure		IP54
Switching Time (ms)		≤20ms



MS-TS500-2-A

Model		MS-TS500-2-A
Grid/PCS Side Data		
Rated AC Input/Output Active Power(kW)		500
Rated AC Input/Output Current(A)		758/725
Rated Input/Output Voltage(V)		220/380, 230/400
Grid Connection Form		3L/N/PE
Rated Input/Output Grid Frequency		50Hz/60Hz
Load Side Data		
Rated Output Active Power(kW)		500
Rated Output Current(A)		758/725
Rated Output Voltage(V)		220/380,230/400
Grid Connection Form		3L/N/PE
Rated Output Grid Frequency		50Hz/60Hz
GEN Side Data		
Rated AC Input Active Power(kW)		500
Rated AC Input Current(A)		758/725
Rated Input Voltage(V)		220/380, 230/400
Grid Connection Form		3L/N/PE
Rated Input Grid Frequency		50Hz/60Hz
System Data		
Off grid switching time		≤10ms
Operating Temperature Range		~20°C~55°C
Permissible Altitude		≤3000m
Ingress Protection(IP) Rating		IP54
Cabinet size (W*H*D) [mm]		1000 X 2250 X1000
Weight[kg]		≤700kg

C&I PV-BESS-EV Charging Integrated Solution



MS-MPPT250-2

Model	MS-MPPT250-2
PV String Input Data	
MAX.PV Access Power(kW)	250
Max. PV Input Power (kW)	200
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+40+40
Max. Input Short-Circuit Current (A)	60+60+60+60+60+60+60+60+60+60
No. of MPP Trackers	10
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)	543x198x720
Weight (kg)	80
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)	250



AI Intelligence

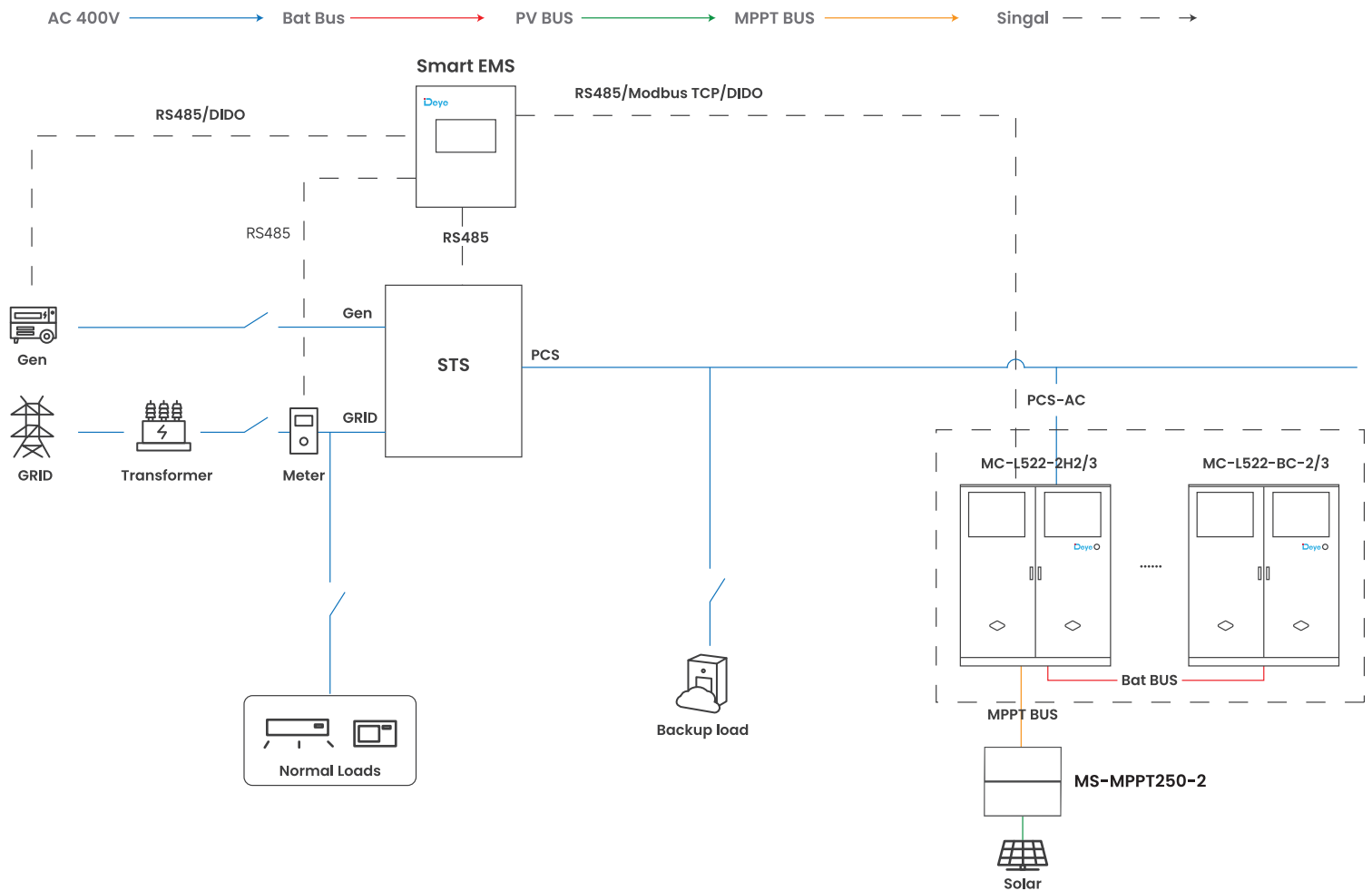
- Large capacity energy aggregation
- Real-time electricity price revenue calculation
- One click generation of statistical charts
- Maximum profit charging and discharging strategy

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



C&I EMS

Model

MS-EMS

System

Configuration

EMS controller, lightning protection module, switch power supply, UPS module, switch

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

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)

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

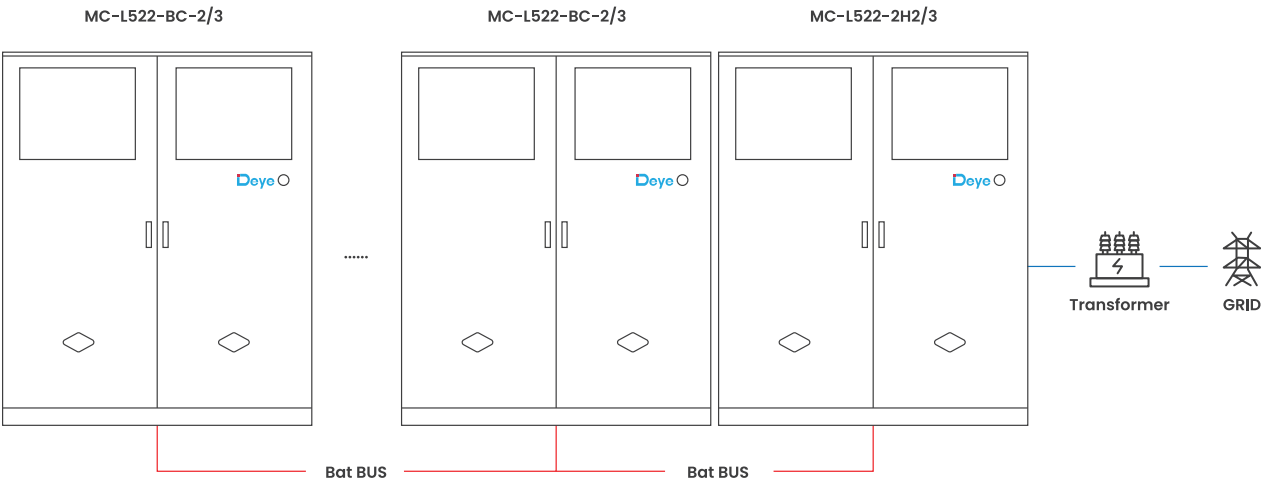
AC power cord : Recommended wire diameter 1.5mm²
DC power cord : Recommended wire diameter of 1.5mm²
Eight core Ethernet cable: Recommended CAT5e Ethernet cable
RS485 : Recommended 0.75mm²~1.5mm² outdoor UV protection with shielding layer twisted pair cable length<1000m (baud rate 9600)

Versatile C&I Energy Storage Solutions

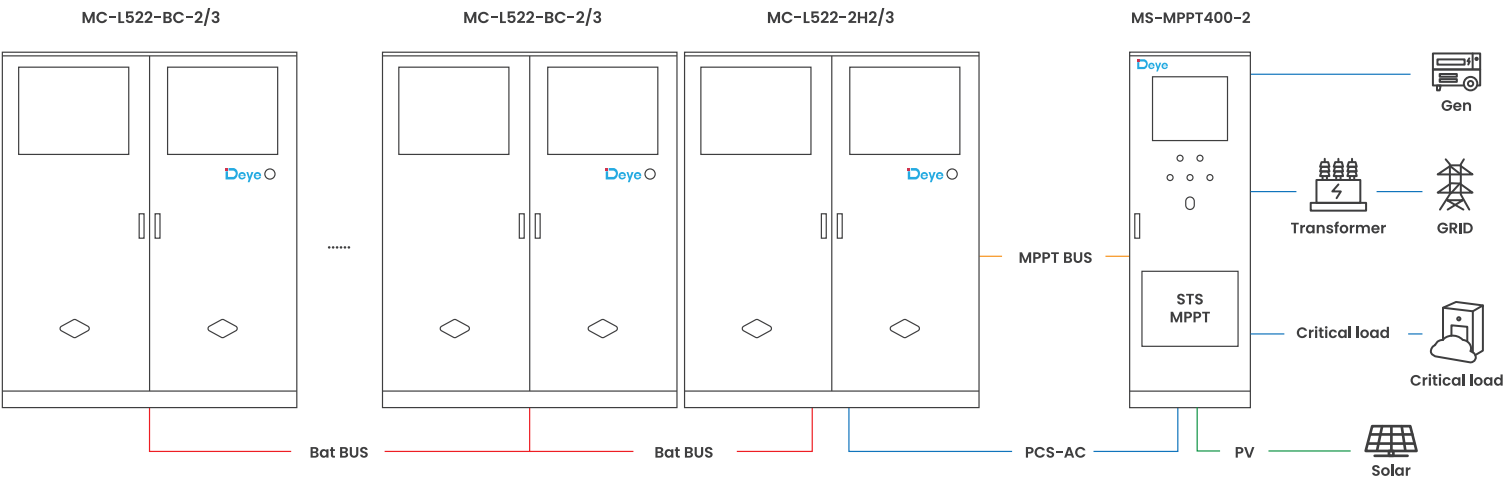
NOTE: MAX 3 battery cabinets (without PCS) parallel

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

For ESS on-grid application

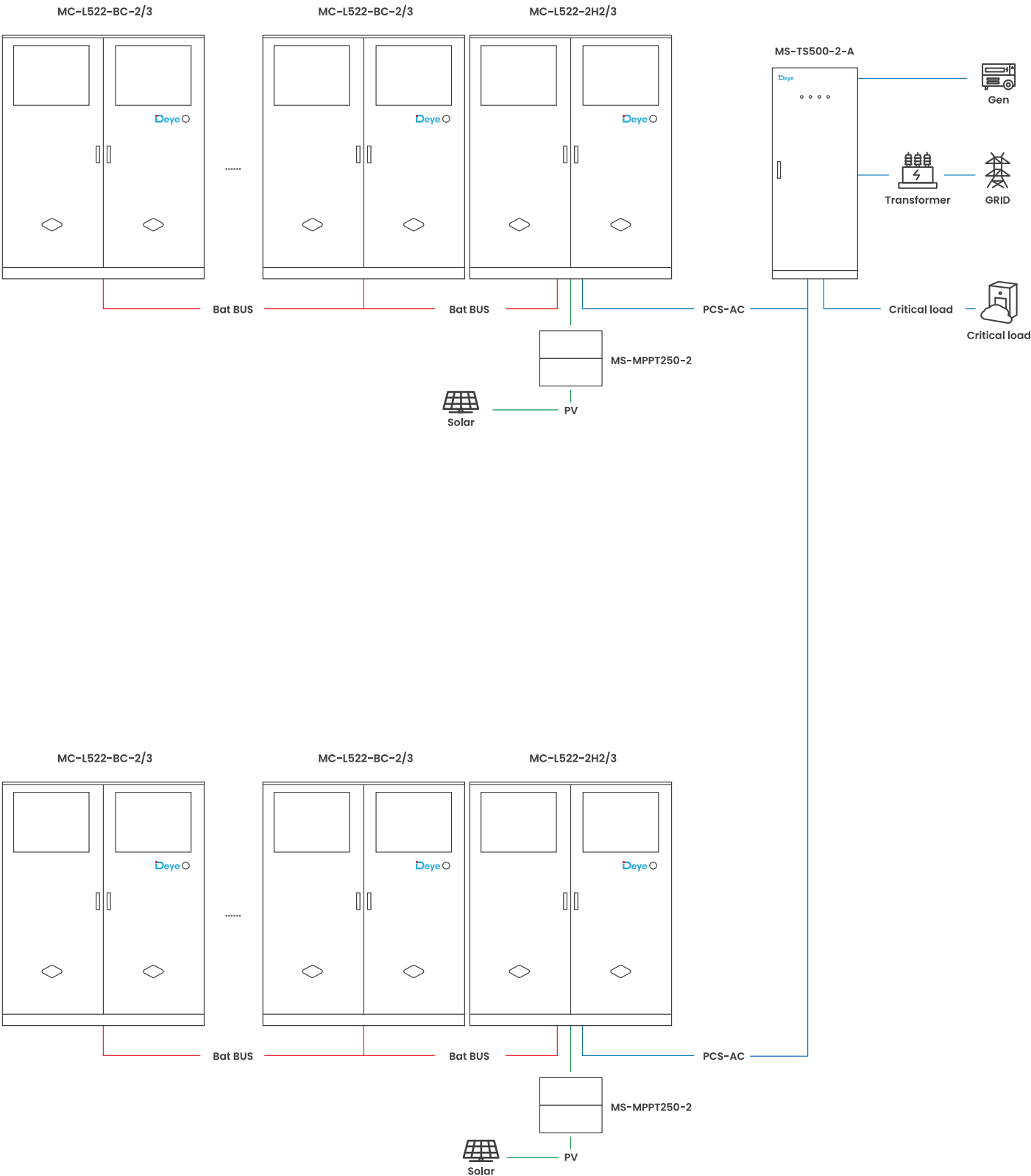


For backup power application with generator and grid



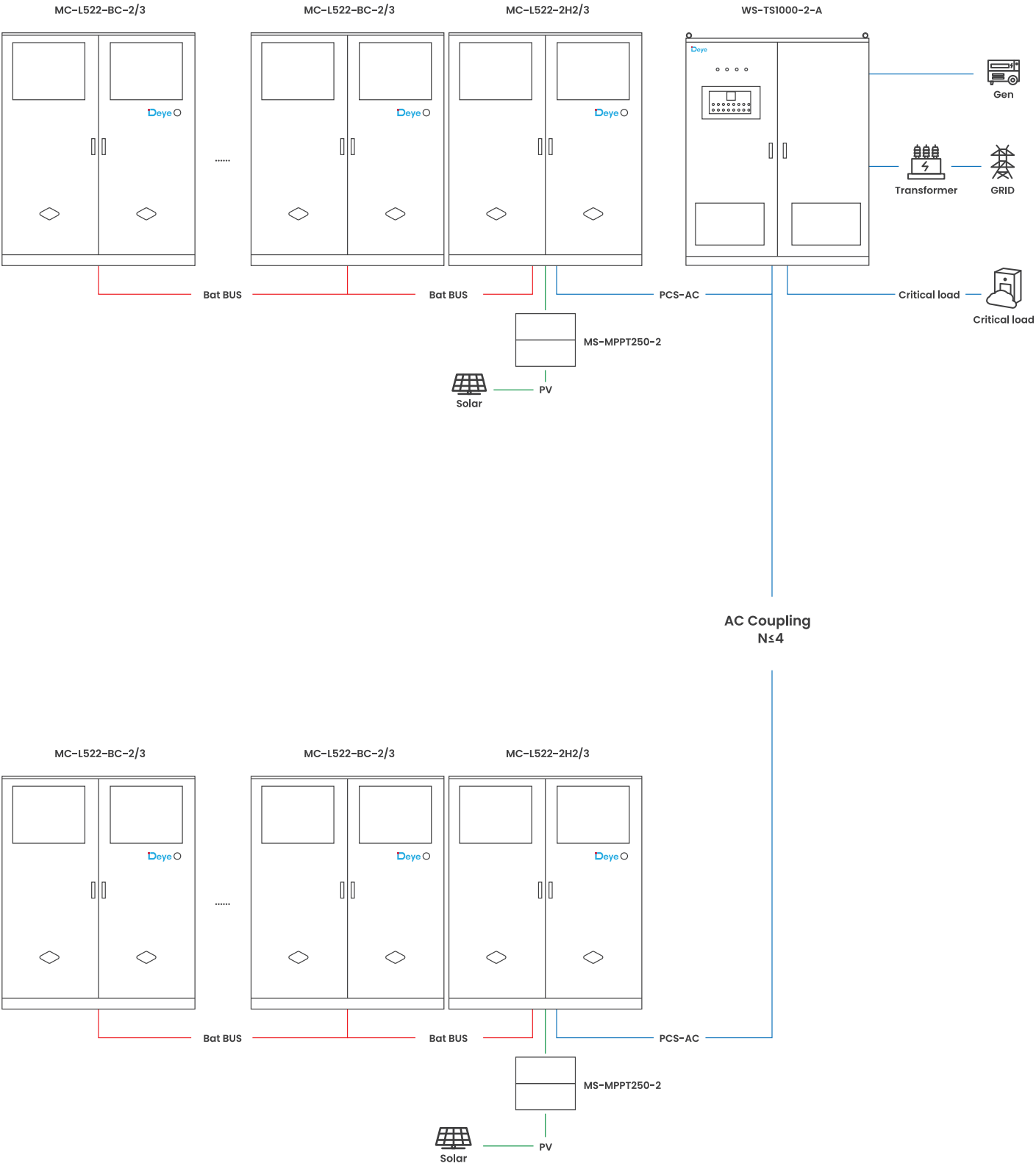
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For backup power application with generator and grid



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