



Emaldo Product Catalogue  
*Emaldo One /Business*



By combining backup power with solar energy storage, this Emaldo project strengthens the resilience of critical water infrastructure, keeping the Faaborg pump station operational during grid outages while maximising the value of locally generated renewable energy. Delivered in just eight weeks end-to-end, the installation includes five Z-Box-C systems (105 kW / 215 kWh each) and an 800 kW STS backup solution. The majority of the battery capacity is reserved for blackout protection to ensure continuous pump operation, while surplus capacity is used for solar energy optimisation and energy arbitrage.

## We are Emaldo

At Emaldo®, we believe energy should be smarter, more accessible, and more valuable for those who use it.

Over the years, we have helped homeowners take control of their energy through intelligent battery solutions and advanced energy optimization. Today, we are proud to take the next step with the launch of Emaldo® One Business.

Designed specifically for commercial applications, Emaldo® One Business enables businesses and industries to reduce energy costs, improve resilience, and unlock new opportunities in an increasingly dynamic energy market.

As the energy landscape continues to evolve, businesses need solutions that do more than simply store energy. They need a trusted partner that can support them throughout their entire energy journey, from the first business case to long term value creation. That is exactly what Emaldo® One Business is built to deliver.

Our ambition is to be a true one stop shop for commercial energy storage. Through our network of local experts and partners, we support customers with feasibility studies and business case

development, access to a portfolio of battery energy storage systems, proven revenue opportunities through pre-approved VPP partners, and complete aftercare services in the local language. By taking end-to-end responsibility, we make the transition to energy storage simpler, safer, and more profitable.

At the heart of our approach is the belief that strong partnerships create lasting value. We are committed to building win-win relationships with our customers, partners, and stakeholders, ensuring that everyone benefits from the opportunities created by the energy transition.

This launch represents more than an expansion of our product portfolio. It reflects our continued commitment to empowering our customers with greater energy independence while helping accelerate the transition to a smarter and more sustainable energy future.

Thank you to our customers, partners, and employees for being part of this journey. Together, we are building the future of energy.

**Steffen Bjerregaard**  
CEO & Founder, Emaldo®

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# Commercial

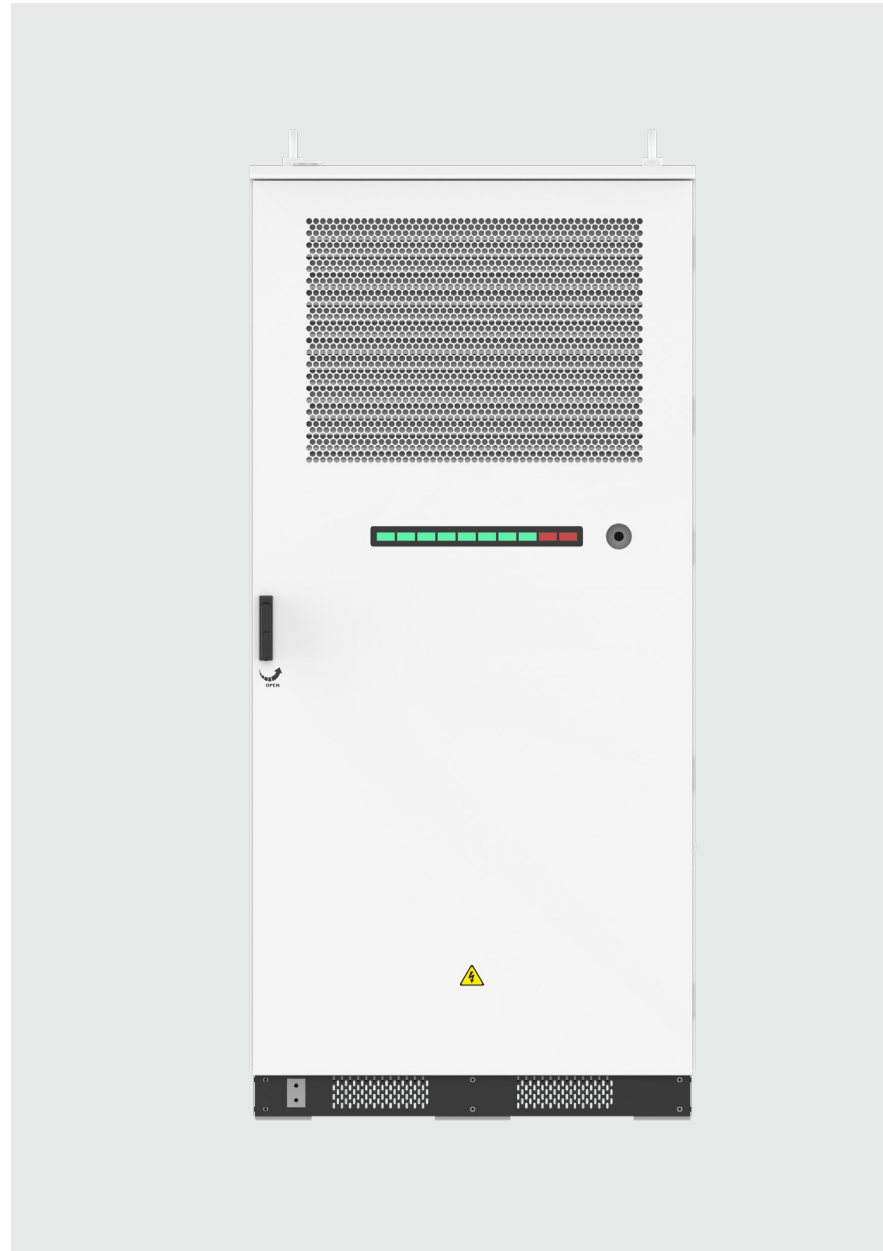


# EM-B100

The EM-B100 is a compact all-in-one commercial energy storage system designed for businesses looking to reduce electricity costs, manage peak demand, and improve on-site energy flexibility. With a 100kW power rating and 209kWh battery capacity, it is well suited for commercial buildings, smaller industrial facilities, and sites with solar PV integration.

## Key USP's

- Reduces peak demand and supports lower energy costs.
- Compact 100kW / 209kWh all-in-one energy storage solution.
- Ideal for commercial buildings, SMEs, and distributed energy projects.
- Integrated battery, PCS, EMS, BMS, liquid cooling, and protection systems.
- Suitable for both new energy projects and retrofit installations.



# Non-Hybrid

## General

Manufactured	Emaldo
Product name	EM-B100
Ingress Protection	IP54 (PACK IP65)

## Battery parameters

Cell and Capacity	LiFePO4 - 314 Ah
Charge/Discharge Rate	0.5P @ 25°C
Battery Module Type	1P52S*4S
System Capacity Range	209 kWh
System Efficiency	Annual Comprehensive RTE ≥ 88%

## AC Side On-grid Parameters

Grid Type	3L/N/PE
Rated Power (on-grid)	100 kW
Rated Voltage	AC 400V
Grid Voltage Range	±15%
Frequency Range	50 Hz
Rated Current	160 A
Harmonics	≤3% @ Rated Power

## AC Side Off-grid Parameters

Grid Type (off-grid)	3L/N/PE
Rated Power (off-grid)	100 kW
Frequency Range (off-grid)	50 Hz
Rated Voltage (off-grid)	AC 400V

## Environmental parameters

Operating Humidity	0-95% (no condensing)
Operating Temperature	-20°C ~ +50°C
Operating Altitude	3000 m

## System parameters

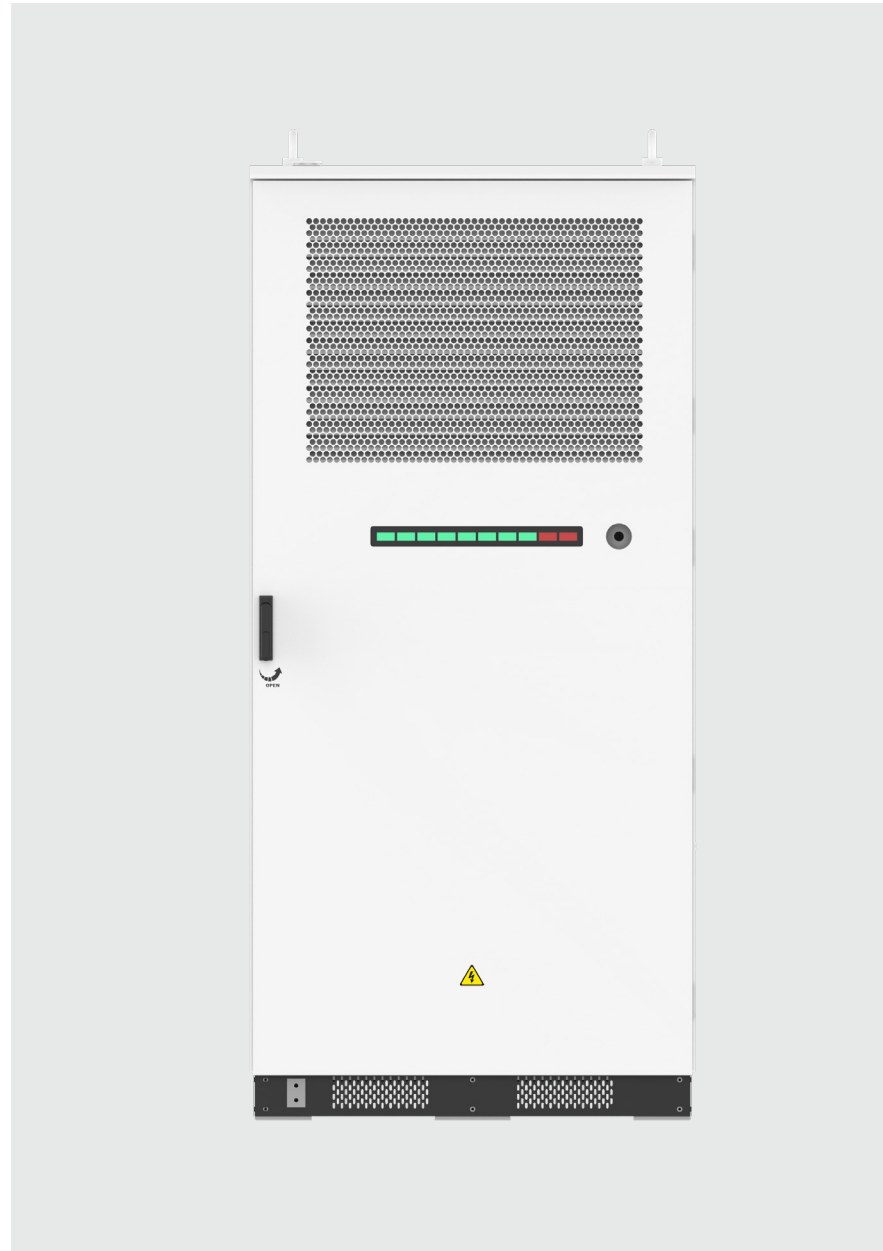
Ingress Protection	IP54 (PACK IP65)
Anti-Corrosion Grade	C4 (C5 available at an additional cost)
Cooling	Liquid Cooling
Communication Interface	RS485, Ethernet, CAN
Protocol	Modbus RTU, Modbus TCP/IP, CAN2.0
Parallel Operation Units	On-grid: 20 units; Off-grid: 12 units
Firefighting System	Cabinet aerosol + Perfluorohexone PACK + Water-based Fire Protection
Cycle Life	≥8000 @ 25±3°C, 0.5P, 95% DOD, 80% SOH
Standards	GB/T36276, IEC62619, IEC62477, IEC61000, UN38.3
Dimension H×W×D	2350 × 1100 × 1400 mm
Weight	2.33 t
Noise Emission	≤80 dB

# EM-B125

The EM-B125 is an all-in-one C&I energy storage system developed for commercial and industrial users with higher energy demand. Combining 125kW of power with 261kWh of storage capacity, it helps businesses reduce demand peaks, increase renewable energy utilisation, and strengthen energy resilience during grid disturbances.

## Key USP's

- 125kW / 261kWh C&I energy storage system.
- Reduces demand peaks and improves energy cost control.
- Supports backup power and operational resilience.
- Designed for commercial, industrial, and renewable energy applications.
- Advanced liquid cooling supports efficiency and battery lifetime.
- Integrated EMS enables intelligent energy management and remote monitoring.



# Non-Hybrid

## General

Manufactured	Emaldo
Product name	EM-B125
Ingress Protection	IP54 (PACK IP65)

## Battery parameters

Cell and Capacity	LiFePO4 - 314 Ah
Charge/Discharge Rate	0.5P @ 25°C
Battery Module Type	1P52S*5S
System Capacity Range	261 kWh
System Efficiency	Annual Comprehensive RTE ≥ 88%

## AC Side On-grid Parameters

Grid Type	3L/N/PE
Rated Power (on-grid)	125 kW
Rated Voltage	AC 400V
Grid Voltage Range	±15%
Frequency Range	50 Hz
Rated Current	180 A
Harmonics	≤3% @ Rated Power

## AC Side Off-grid Parameters

Grid Type (off-grid)	3L/N/PE
Rated Power (off-grid)	125 kW
Frequency Range (off-grid)	50 Hz
Rated Voltage (off-grid)	AC 400V

## Environmental parameters

Operating Humidity	0-95% (no condensing)
Operating Temperature	-20°C ~ +50°C
Operating Altitude	3000 m

## System parameters

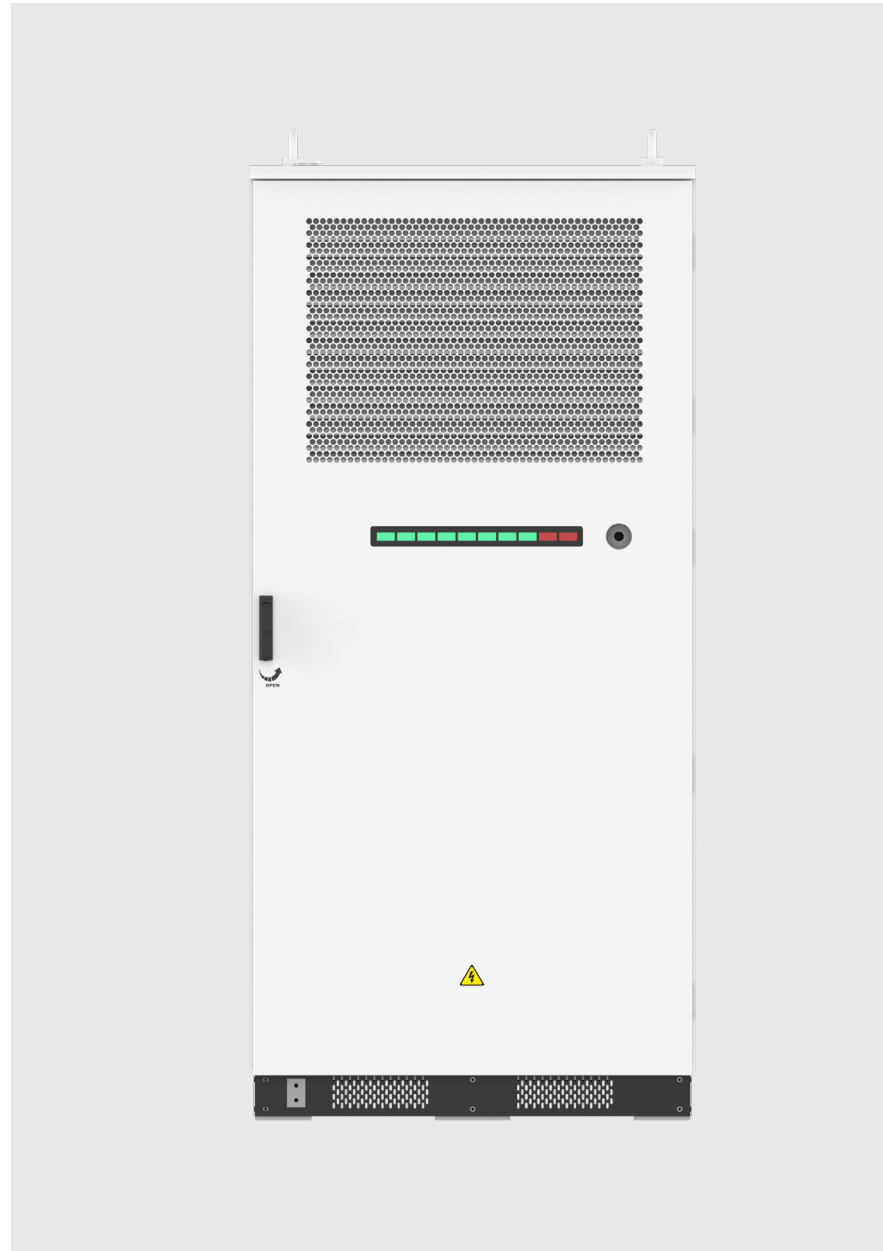
Ingress Protection	IP54 (PACK IP65)
Anti-Corrosion Grade	C4 (C5 available at an additional cost)
Cooling	Liquid Cooling
Communication Interface	RS485, Ethernet, CAN
Protocol	Modbus RTU, Modbus TCP/IP, CAN2.0
Parallel Operation Units	On-grid: 20 units; Off-grid: 12 units
Firefighting System	Cabinet aerosol + Perfluorohexone PACK + Water-based Fire Protection
Cycle Life	≥8000 @ 25±3°C, 0.5P, 95% DOD, 80% SOH
Standards	GB/T36276, IEC62619, IEC62477, IEC61000, UN38.3
Dimension H×W×D	2350 × 1100 × 1400 mm
Weight	2.65 t
Noise Emission	≤80 dB

# EM-H100

The EM-H100 is an integrated commercial energy storage and PV solution designed for businesses looking to combine solar generation, battery storage, backup power, and intelligent energy management in one system. With 100kW of energy storage power, 209kWh of battery capacity, a mounted 100kW PV inverter, and an integrated backup box, it helps commercial sites increase solar self-consumption, reduce peak demand, and improve energy resilience.

## Key USP's

- Integrated BESS and PV solution for commercial applications.
- 100kW / 209kWh energy storage configuration.
- Mounted 100kW PV inverter for solar integration.
- Integrated backup box for backup power functionality.
- Supports solar self-consumption, load shifting, and peak shaving.
- Helps reduce grid dependency and improve energy resilience.
- Suitable for commercial sites with new or existing PV installations.



# Hybrid

## General

Manufactured	Emaldo
Product name	EM-H100
Number of MPPT	8 MPPT
Ingress Protection	IP54

## Battery parameters

Cell and Capacity	LiFePO4 - 314 Ah
Battery Module Type	1P52S*4S
System Capacity Range	208.99 kWh
System Efficiency	Annual Comprehensive RTE ≥ 88%

## AC Side On-grid Parameters

Grid Type	3L/N/PE
Rated Power (on-grid)	100 kW
Rated Voltage	AC 400V
Grid Voltage Range	±15%
Grid Frequency Range	50 Hz
Rated Current	144 A
Harmonics	≤3% @ Rated Power

## PV Side parameters

Max. PV Input Power	100 kW
MPPT Voltage Range	200-1000V
Max. DC Input Current	45A × 8
Max. DC Short-Circuit Current	56.5A × 8
Frequency Range (PV)	50 Hz
PV Rated Voltage	3L/N/PE AC 230/400V
PV Inverter Efficiency	98.8% max
Battery Chemistry	LFP (Lithium Iron Phosphate)
Thermal Management	Advanced Liquid Cooling

## Environmental parameters

Operating Humidity	0-95% (no condensing)
Operating Temperature	-20°C ~ +50°C
Operating Altitude	3000 m

## System parameters

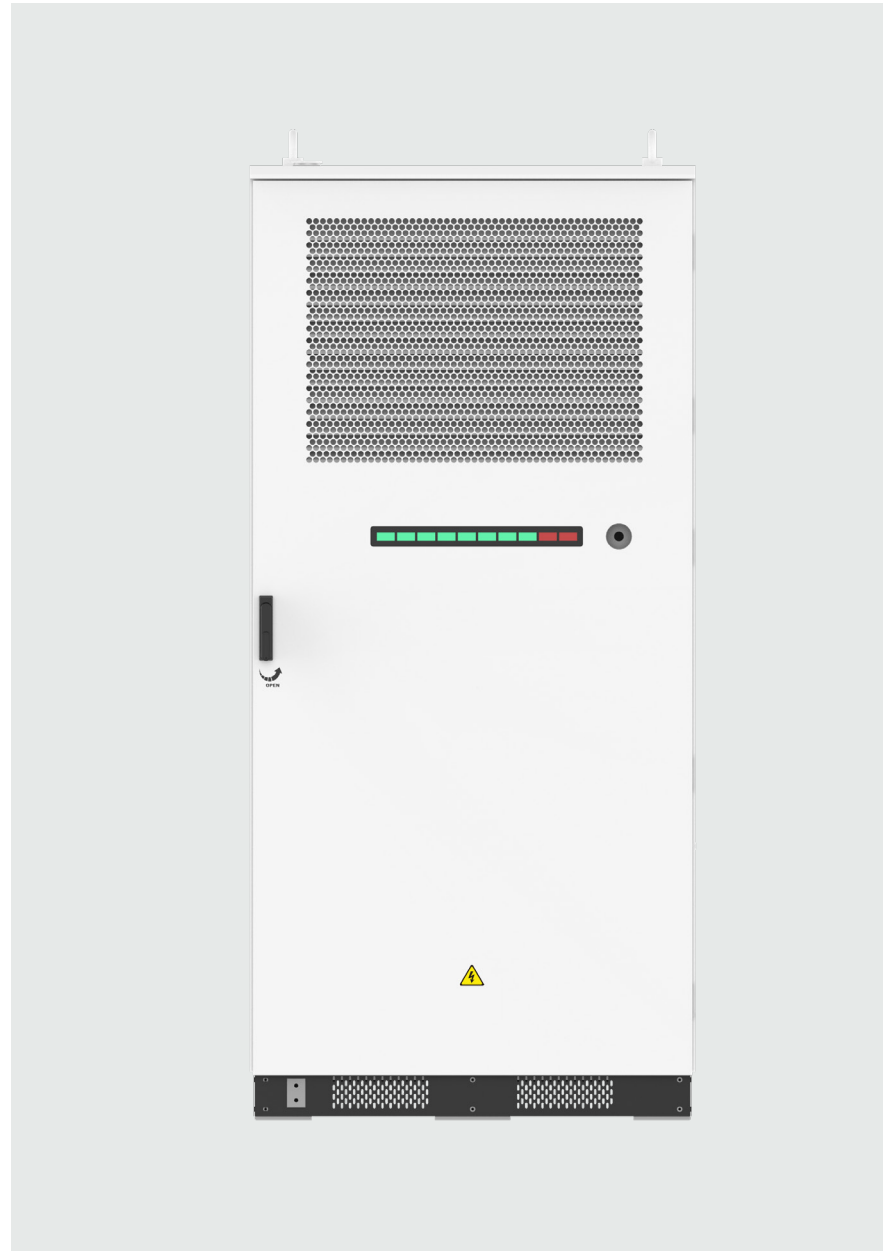
Ingress Protection	IP54
Cooling	Liquid Cooling
Communication Interface	RS485, Ethernet, CAN
Protocol	Modbus RTU, Modbus TCP/IP, CAN2.0
Parallel Operation Units	On-grid: 20 units; Off-grid: 12 units
Firefighting System	Cabinet aerosol + Perfluorohexone PACK + Water-based Fire Protection
Dimension H×W×D	2350 × 1100 × 1715 mm
Weight	2400 ±50 kg
Noise	≤80 dB

# EM-H125

The EM-H125 is an integrated commercial energy storage and PV solution designed for sites with higher energy consumption and on-site solar generation. Combining 125kW of storage power, 261kWh of battery capacity, a mounted 100kW PV inverter, and an integrated backup box, it enables businesses to maximise the value of solar energy, reduce demand peaks, and maintain reliable power during grid interruptions.

## Key USP's

- Integrated BESS and PV solution for commercial and industrial applications.
- 125kW / 261kWh energy storage configuration.
- Mounted 100kW PV inverter for PV generation input.
- Integrated backup box for backup power applications.
- Supports solar PV integration, self-consumption, and load shifting.
- Reduces grid energy usage and expensive demand peaks.
- Suitable for commercial sites with PV generation and variable energy demand.



# Hybrid

## General

Manufactured	Emaldo
Product name	EM-H125
Number of MPPT	8 MPPT
Ingress Protection	IP54

## Battery parameters

Cell and Capacity	LiFePO4 – 314 Ah
Battery Module Type	1P52S*5S
System Capacity Range	261 kWh
System Efficiency	Annual Comprehensive RTE ≥ 88%

## AC Side On-grid Parameters

Grid Type	3L/N/PE
Rated Power (on-grid)	125 kW
Rated Voltage	AC 400V
Grid Voltage Range	±15%
Grid Frequency Range	50 Hz
Rated Current	180 A
Harmonics	≤3% @ Rated Power

## AC Side Off-grid Parameters

Grid Type (off-grid)	3L/N/PE
Rated Power (off-grid)	125 kW
Rated Voltage (off-grid)	AC 400V
Grid Frequency Range (off-grid)	50 Hz

## PV Side Parameters

Max. PV Input Power	100 kW
MPPT Voltage Range	200-1000V
Max. DC Input Current	45A × 8
Max. DC Short-Circuit Current	56.5A × 8
PV Inverter Efficiency	98.8% max
Battery Chemistry	LFP (Lithium Iron Phosphate)
Thermal Management	Advanced Liquid Cooling

## Environmental parameters

Operating Humidity	0-95% (no condensing)
Operating Temperature	-20°C ~ +50°C
Operating Altitude	3000 m

## System parameters

Ingress Protection	IP54
Cooling	Liquid Cooling
Communication Interface	RS485, Ethernet, CAN
Protocol	Modbus RTU, Modbus TCP/IP, CAN2.0
Parallel Operation Units	On-grid: 20 units; Off-grid: 12 units
Firefighting System	Cabinet aerosol + Perfluorohexone PACK + Water-based Fire Protection
Dimension H×W×D	2350 × 1100 × 1715 mm
Weight	2700 ±50 kg
Noise	≤80 dB



# PL-EL-250/836-G400

POWERED BY EMALDO

The PL-EL-250/836-G400 is a 400V AC commercial energy storage system designed for larger commercial facilities with significant energy consumption. With 250kW of power and 836kWh of storage capacity, it supports peak shaving, energy cost optimisation, and improved use of renewable energy in commercial electrical environments.

## Key USP's

- 250kW / 836kWh commercial BESS solution.
- Designed for 400V AC commercial infrastructure.
- Reduces peak demand and supports lower operating costs.
- Suitable for larger commercial buildings, retail, agriculture, and SMEs.
- Supports solar self-consumption and load shifting.
- Ideal for sites requiring higher storage capacity without moving into 690V industrial infrastructure.



## General

Manufactured	Pilot
Product name	PL-EL-250/836-G400
Ingress Protection	IP54 (PACK IP65)

## Battery parameters

Cell and Capacity	LiFePO4 - 314 Ah
Charge/Discharge Rate	0.3P @ 25°C
Battery Module Type	1P208S*4P
System Capacity Range	836 kWh
System Efficiency	Annual Comprehensive RTE ≥ 88%

## AC Side On-grid Parameters

Grid Type	3L/PE
Rated Power (on-grid)	250 kW
Rated Voltage	AC 400V
Grid Voltage Range	±15%
Frequency Range	50 Hz
Rated Current	360 A
Harmonics	≤3% @ Rated Power

## Environmental parameters

Operating Humidity	0-95% (no condensing)
Operating Temperature	-20°C ~ +50°C
Operating Altitude	3000 m

## System parameters

Anti-Corrosion Grade	C4 (C5 available at an additional cost)
Cooling	Liquid Cooling
Communication Interface	RS485, Ethernet, CAN
Protocol	Modbus RTU, Modbus TCP/IP, CAN2.0
Parallel Operation Units	On-grid/Off-grid: 6 units
Firefighting System	Cabinet aerosol + Perfluorohexone PACK + Water-based Fire Protection
Cycle Life	≥7000 @ 25±3°C, 95% DoD, 80% EOL
Standards	GB/T36276, IEC62619, IEC62477, IEC61000, UN38.3
Dimension H×W×D	2500 × 2800 × 1400 mm
Weight	7.7 t
Noise Emission	≤80 dB

# PL-EL-400/836-G400

POWERED BY EMALDO

The PL-EL-400/836-G400 is a high-power 400V AC commercial energy storage system built for energy-intensive commercial sites. Combining 400kW output with 836kWh of storage capacity, it is designed to support demanding load profiles, reduce demand charges, and increase flexibility in facilities with large electrical consumption.

## Key USP's

- 400kW / 836kWh commercial energy storage system.
- Designed for 400V AC grid connection environments.
- Higher power output for demanding commercial load profiles.
- Supports peak shaving, backup power, and energy optimisation.
- Suitable for supermarkets, logistics, agriculture, commercial buildings, and large SMEs.
- Enables better utilisation of on-site renewable energy production.



## General

Manufactured	Pilot
Product name	PL-EL-400/836-G400
Ingress Protection	IP54 (PACK IP65)

## Battery parameters

Cell and Capacity	LiFePO4 - 314 Ah
Charge/Discharge Rate	0.5P @ 25°C
Battery Module Type	1P208S*4P
System Capacity Range	836 kWh
System Efficiency	Annual Comprehensive RTE ≥ 88%

## AC Side On-grid Parameters

Grid Type	3L/N/PE
Rated Power (on-grid)	400 kW
Rated Voltage	AC 400V
Grid Voltage Range	±15%
Frequency Range	50 Hz
Rated Current	577 A
Harmonics	≤3% @ Rated Power

## Environmental parameters

Operating Humidity	0-95% (no condensing)
Operating Temperature	-20°C ~ +50°C
Operating Altitude	3000 m

## System parameters

Anti-Corrosion Grade	C4 (C5 available at an additional cost)
Cooling	Liquid Cooling
Communication Interface	RS485, Ethernet, CAN
Protocol	Modbus RTU, Modbus TCP/IP, CAN2.0
Parallel Operation Units	On-grid: 6 units; Off-grid: 3 units
Firefighting System	Cabinet aerosol + Perfluorohexone PACK + Water-based Fire Protection
Cycle Life	≥7000 @ 25±3°C, 95% DoD, 80% EOL
Standards	GB/T36276, IEC62619, IEC62477, IEC61000, UN38.3
Dimension H×W×D	2500 × 2800 × 1400 mm
Weight	7.8 t
Noise Emission	≤80 dB

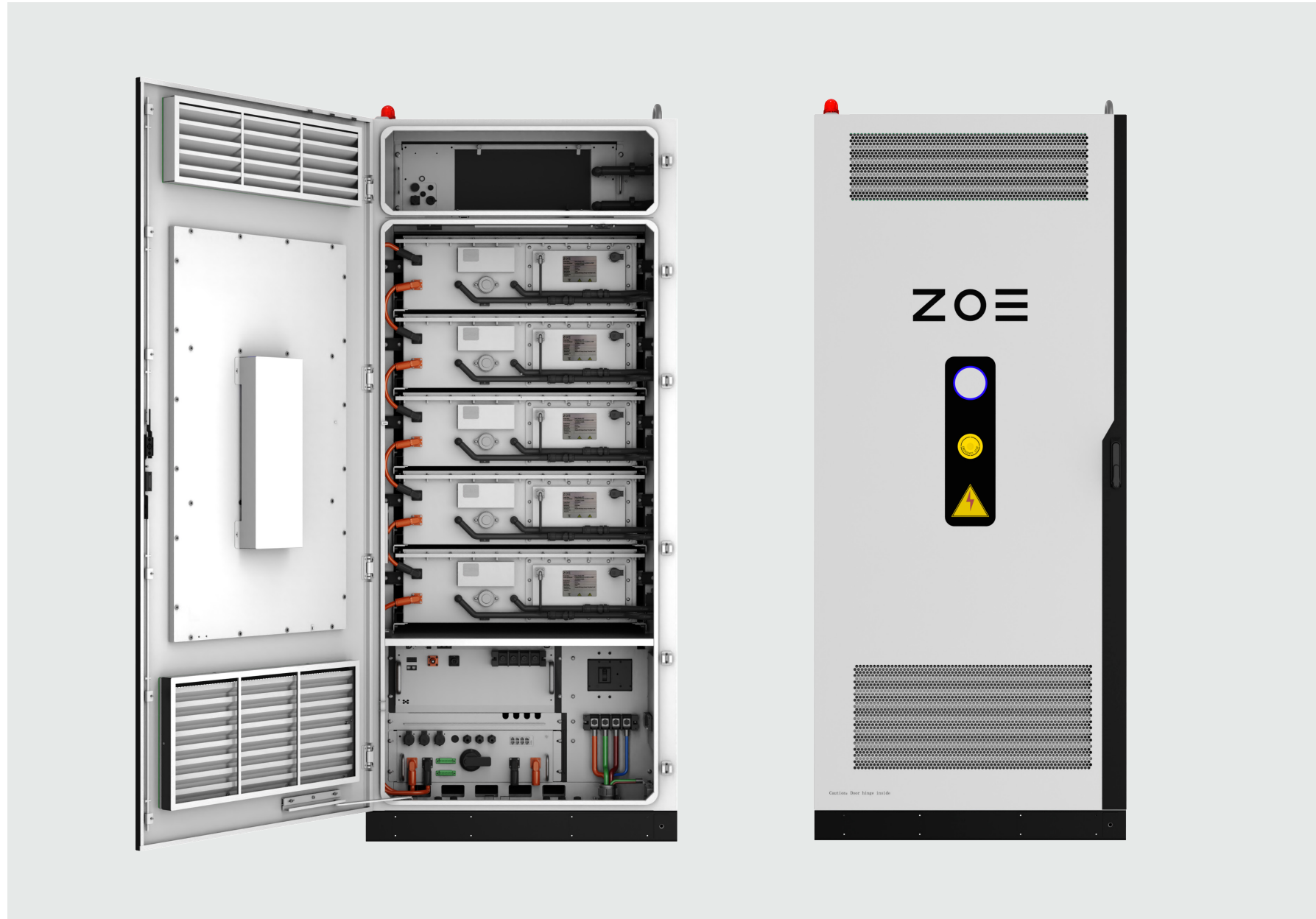
# Z BOX-C PLUS 261-2H

POWERED BY EMALDO

The Z BOX-C Plus 261-2H is an intelligent all-in-one commercial energy storage system designed to reduce energy costs, support backup power, and optimise energy usage. With advanced liquid cooling, AI-powered monitoring, and built-in safety protection, it delivers efficient, reliable, and flexible energy storage for commercial applications.

## Key USP's

- 125kW / 261kWh all-in-one energy storage solution.
- Advanced liquid cooling for higher efficiency and longer battery life.
- Intelligent energy management with remote monitoring capabilities.
- Multi-layer fire protection and thermal runaway detection.
- Flexible applications including peak shaving, backup power, and PV integration.



## General

Manufactured	ZOE
Product name	Z BOX-C PLUS 261-2H

## AC Output Data (On-grid)

Nominal Output Power (kW)	125
Nominal Output Voltage (V)	400, 3L/N/PE
Nominal AC Grid Frequency (Hz)	50/60
Max. AC Output Current (A)	200
Nominal Output Current (A)	180
Power Factor	-1~+1
Max. Total Harmonic Distortion	< 3%

## Battery data

Module Nominal Energy (kWh)	52.2496
Battery Pack Configuration	1P52S
Number of Packs	5
Rack Nominal Energy (kWh)	261.248
Nominal Voltage (V)	832
Operating Voltage Range (V)	728-936
Max. Charge/Discharge Current (A)	180
Max. Charge/Discharge Power (kW)	138
Cycle	8000

## Efficiency

System Efficiency	90%
Ingress Protection Rating	IP55 (Battery Cabinet)
Anti-Corrosion	C4 (C5 Optional)
Fire Suppression	Aerosol /Water

## General data

Working Temperature Range (°C)	-30~+55
Derating Temperature (°C)	45
Storage Temperature (°C)	-20~+45(1 month) 0~+35(1 year)
Relative Humidity	0~95%
Max. Operating Altitude (m)	3000m (Derating above 2000m)
Cooling Method	Smart Liquid Cooling
Display	Web/LED
Communication Protocol	Modbus TCP
Weight (kg)	2550±50
Dimension (W×H×D mm)	990*2300*1320
Noise Emission (dB)	≤65
Topology	Non-Isolated
Audible and Visual Alarm	Optional
Explosion Venting Function	Standard
Pack-Level Fire Protection	Optional
Fire Water Connection	Standard
Standards&Certification	UL9540A, IEC62933-5-2, IEC 62619, IEC 63056, IEC62477-1, IEC 61000-6-2/-4, UN38.3

# Z BOX-C PLUS 261

POWERED BY EMALDO

The Z BOX-C PLUS 261 Hybrid is a high-performance, all-in-one liquid-cooled energy storage solution. When paired with a hybrid inverter and intelligent energy management, the system optimizes the interaction between solar PV generation, battery storage, and site loads, delivering maximum efficiency, reliability, and operational flexibility for commercial and industrial applications.

## Key USP's

- Battery storage, fire protection, and intelligent energy management in a single cabinet.
- High-capacity energy storage with a compact footprint, reducing installation space and costs.
- Easily expand capacity with additional cabinets as your energy needs grow.
- Compatible with a wide range of leading hybrid inverter brands.
- Supports up to 250 kW of PV input for greater solar energy capture and flexibility.
- Built-in EMS monitors, optimizes, and manages energy flows in real time.



## General

Manufactured	ZOE
Product name	Z BOX-C PLUS 261

## Battery parameters

Cell Type	LFP / 314 Ah
Pack Configuration	52.25kWh/IP52S
System Configuration	261kWh/IP260S
Rated DC Voltage	832V
DC Voltage Range	728~936V
Max. Charge/Discharge Rate	0.5P
Max. Depth of Discharge	100% (25 ± 2°C)
Cycle Life	≥8,000

## PV input

Max PV Input Power	150-250kW
PV Voltage Range	150 ~ 950V
MPPT	10
MAX. Input Current	42A*10

## AC side

Rated Output Power	75kW ~ 125kW
Rated AC Voltage	415V
AC Voltage Range	±15%
Grid Type	3W+N+PE
Rated Frequency	50Hz / 60Hz
Power Factor	0.99/ -0.8 ~ +0.8
THDi	≤ 3%
DC Ratio	< 0.5% pn

## General

Max. Round Trip Efficiency	90%
Communication	Modbus TCP/IP
Fire Suppression System	Aerosol
Ingress Rating	IP55
Cooling	Liquid Cooling + Forced Air Cooling
Operating Temperature	-30°C ~ 55°C(Derating after 45°C)
Anticorrosion Rating	C4(C5 Optional)
Humidity	0~95% RH(Non-Condensing)
Altitude	3000m(Derating above 2000m)
Dimensions (W*D*H)	1,050*1,350*2,400mm
Weight	2,600kg
Safety/EMC	UN38.3, IEC62619, IEC63056, IEC62477-1, IEC61000-6-2/4
Grid Code	EN50549-1/-10, EN50549-2/-10, G99, VDE4105, NRS097, C10/11

# Industrial





# PL-EL-250/836-G690

POWERED BY EMALDO

The PL-EL-250/836-G690 is an industrial energy storage system designed for facilities using 690V AC electrical infrastructure. With 250kW power and 836kWh capacity, it supports industrial energy optimisation, demand management, renewable energy integration, and improved power resilience in manufacturing and process environments.

## Key USP's

- 250kW / 836kWh industrial BESS solution.
- Designed for 690V AC industrial applications.
- Supports demand reduction and industrial energy cost savings.
- Suitable for manufacturing, process industry, and heavy-duty facilities.
- Helps stabilise energy usage in sites with large or fluctuating loads.
- Supports integration with solar PV, industrial loads, and energy management systems.



## General

Manufactured	Pilot
Product name	PL-EL-250/836-G690
Ingress Protection	IP54 (PACK IP65)

## Battery parameters

Cell and Capacity	LiFePO4 - 314 Ah
Charge/Discharge Rate	0.25P @ 25°C
Battery Module Type	1P416S*2P
System Capacity Range	836 kWh
System Efficiency	Annual Comprehensive RTE ≥ 88%

## AC Side On-grid Parameters

Grid Type	3L/PE
Rated Power (on-grid)	215 kW
Rated Voltage	AC 690V
Grid Voltage Range	±15%
Frequency Range	50 Hz
Rated Current	179.9 A
Harmonics	≤3% @ Rated Power

## Environmental parameters

Operating Humidity	0-95% (no condensing)
Operating Temperature	-20°C ~ +50°C
Operating Altitude	3000 m

## System parameters

Anti-Corrosion Grade	C4 (C5 available at an additional cost)
Cooling	Liquid Cooling
Communication Interface	RS485, Ethernet, CAN
Protocol	Modbus RTU, Modbus TCP/IP, CAN2.0
Parallel Operation Units	On-grid/Off-grid: 12 units
Firefighting System	Cabinet aerosol + Perfluorohexone PACK + Water-based Fire Protection
Cycle Life	≥7000 @ 25±3°C, 95% DoD, 80% EOL
Standards	GB/T36276, IEC62619, IEC62477, IEC61000, UN38.3
Dimension H×W×D	2500 × 2800 × 1400 mm
Weight	7.65 t
Noise Emission	≤80 dB

# PL-EL-400/836-G690

POWERED BY EMALDO

The PL-EL-400/836-G690 is a high-power industrial energy storage system designed for demanding 690V AC applications. With 400kW power and 836kWh capacity, it is suitable for industrial facilities that require stronger peak shaving capability, improved energy resilience, and efficient integration into industrial power systems.

## Key USP's

- 400kW / 836kWh industrial energy storage system.
- Designed for 690V AC industrial electrical infrastructure.
- Higher power rating for demanding industrial load profiles.
- Supports peak shaving, backup power, and grid support applications.
- Suitable for manufacturing, processing, heavy industry, and large facilities.
- Helps improve energy flexibility and reduce exposure to high demand costs.



## General

Manufactured	Pilot
Product name	PL-EL-400/836-G690
Ingress Protection	IP54 (PACK IP65)

## Battery parameters

Cell and Capacity	LiFePO4 - 314 Ah
Charge/Discharge Rate	0.5P @ 25°C
Battery Module Type	1P416S*2P
System Capacity Range	836 kWh
System Efficiency	Annual Comprehensive RTE ≥ 88%

## AC Side On-grid Parameters

Grid Type	3L/PE
Rated Power (on-grid)	400 kW
Rated Voltage	AC 690V
Grid Voltage Range	±15%
Frequency Range	50 Hz
Rated Current	334.7 A
Harmonics	≤3% @ Rated Power

## Environmental parameters

Operating Humidity	0-95% (no condensing)
Operating Temperature	-20°C ~ +50°C
Operating Altitude	3000 m

## System parameters

Anti-Corrosion Grade	C4 (C5 available at an additional cost)
Cooling	Liquid Cooling
Communication Interface	RS485, Ethernet, CAN
Protocol	Modbus RTU, Modbus TCP/IP, CAN2.0
Parallel Operation Units	On-grid/Off-grid: 6 units
Firefighting System	Cabinet aerosol + Perfluorohexone PACK + Water-based Fire Protection
Cycle Life	≥7000 @ 25±3°C, 95% DoD, 80% EOL
Standards	GB/T36276, IEC62619, IEC62477, IEC61000, UN38.3
Dimension H×W×D	2500 × 2800 × 1400 mm
Weight	7.75 t
Noise Emission	≤80 dB

# Z BOX-H 418-2H

POWERED BY EMALDO

The Z BOX-H 418-2H is a high-density, liquid-cooled battery energy storage cabinet designed for large-scale commercial and industrial applications. With 418 kWh of storage capacity, advanced thermal management, integrated fire protection, and a high-voltage architecture, it delivers a safe, reliable, and scalable solution for maximizing energy resilience, reducing energy costs, and supporting renewable energy integration.

### Key USP's

- Maximise energy storage, with 418kWh capacity in a single cabinet.
- Enhanced performance, efficiency, and battery lifespan.
- Built-in fire suppression for enhanced safety and peace of mind.
- Optimized for efficient large-scale energy storage deployments.
- Easily expand system capacity to meet growing energy demands.
- IP55-rated enclosure designed for demanding commercial and industrial environments.



### General

Manufactured	ZOE
Product name	Z BOX-H 418-2H

### Battery Data

Cell Type	LFP
Rated Capacity	314Ah
Serial-Parallel Type	1P416S
Rated Capacity Per Pack	52.248kWh
Pack Number	8
System Rated Energy Capacity	418kWh
Rated DC Voltage	1331.2V
Rated DC Voltage Range	1164.8~1497.6V
Rated DC Current	157A

### System parameters

Anticorrosion Rating	C4 (C5 Optional)
Noise	≤70dB
Protection Degree	IP55
Cooling Method	Liquid Cooling/Heating
Fire Suppression System	Aerosol
Operating Temperature Range	-30°C~55°C (>45°C Derating)
Relative Humidity	5%~95%RH
Max. Working Altitude	2000m
Display	Web/LED
Com Interfaces	RS485/Ethernet
Dimensions(L*W*H)	1330*1370*2270mm
Weight	3700±50kg

# Containerised



# PL-EL-3344/4180/5015

POWERED BY EMALDO

The PL-EL-3344/4180/5015 is a large-scale energy storage system designed for demanding commercial, industrial, and utility-scale applications. With high battery capacity and a scalable system architecture, it enables businesses and project developers to optimise energy usage, increase renewable energy integration, and improve grid flexibility.

## Key USP's

- Large-scale BESS for C&I, microgrids, energy parks, and utility-scale projects.
- High-capacity energy storage for demanding projects.
- Reduces energy costs through peak shaving and load shifting.
- Improves energy resilience and grid independence.
- Maximises renewable energy utilisation and grid flexibility.
- Scalable containerised design for efficient deployment and expansion.

Electrical parameters	PL-EL-3344	PL-EL-4180	PL-EL-5015
Cell type	LiFePO4 - 314Ah	LiFePO4 - 314Ah	LiFePO4 - 314Ah
Module configuration	1P52S*8S*8P	1P52S*8S*10P	1P52S*8S*12P
System capacity	3344 kWh	4180 kWh	5015 kWh
Rated Voltage	1331.2V	1331.2V	1331.2V
Operating voltage	1040~1500V	1040~1500V	1040~1500V
Max. charge/discharge rate	0.5P@25°C	0.5P@25°C	0.5P@25°C
Max. charge power	1672 kW	2090 kW	2508 kW
Environmental parameters	PL-EL-3344	PL-EL-4180	PL-EL-5015
Storage temp. range	-30°C~60°C	-30°C~60°C	-30°C~60°C
Operating temp. range	-30°C~50°C	-30°C~50°C	-30°C~50°C
Operating humidity range	≤95%	≤95%	≤95%
Altitude	< 3000m	< 3000m	< 3000m
General parameters	PL-EL-3344	PL-EL-4180	PL-EL-5015
Ingress protection	IP55	IP55	IP55
Anti-corrosion	C4/C5 (optional)	C4/C5 (optional)	C4/C5 (optional)
Cooling method	Liquid cooling	Liquid cooling	Liquid cooling
Communication	CAN, RS485, Ethernet	CAN, RS485, Ethernet	CAN, RS485, Ethernet
Protocol	IEC61850, IEC104, Modbus RTU, Modbus TCP/IP	IEC61850, IEC104, Modbus RTU, Modbus TCP/IP	IEC61850, IEC104, Modbus RTU, Modbus TCP/IP
Firefighting	Aerosol+ PACK-level fire suppression	Aerosol+ PACK-level fire suppression	Aerosol+ PACK-level fire suppression
Cycle life	≥8000 @ 25±3°C, 0.5C, 80%DoD, 70%EOL	≥8000 @ 25±3°C, 0.5C, 80%DoD, 70%EOL	≥8000 @ 25±3°C, 0.5C, 80%DoD, 70%EOL
Standards	IEC62619, EN61000-6-2/4, UN38.3	IEC62619, EN61000-6-2/4, UN38.3	IEC62619, EN61000-6-2/4, UN38.3
Dimensions (W*D*H)	6058*2438*2896	6058*2438*2896	6058*2438*2896
Weight reference	35 ton	39 ton	43 ton



# Z BOX-P 5000-2H

POWERED BY EMALDO

The Z BOX-P 5000-2H is a utility-scale energy storage system designed for large-scale renewable integration, grid stabilisation, and peak shaving applications. Combining advanced liquid cooling, AI-powered monitoring, and a four-layer safety system, it delivers high-capacity, reliable, and efficient energy storage for grid and industrial use.

## Key USP's

- Utility-scale energy storage system with 5MWh+ capacity.
- Advanced liquid cooling for improved efficiency and battery lifespan.
- AI-powered monitoring with predictive health management.
- Four-layer safety protection with thermal runaway detection and fire suppression.
- Supports renewable integration, peak shaving, and grid stability applications.



## General

Manufactured	ZOE
Product name	Z BOX-P 5000-2H

## Battery Data

Cell Type	LFP
Rated Capacity	314Ah
Serial-Parallel Type	12P416S
Rated Capacity Per Pack	104.499kWh
Pack Number	12*4
System Rated Energy Capacity	5.015MWh
Rated DC Voltage	1331.2V
Rated DC Voltage Range	1164.8~1497.6V

## General Data

DOD	95%
Noise	≤75dB
Protection Degree	IP55
Cooling Method	Liquid Cooling/ Heating
Fire Suppression System	Aerosol + Water Fire-Fighting + Explosion-Proof Fan (Combustible Gas)
Operating Temperature Range	-30°C ~ 50°C ( > 45°C Derating)
Relative Humidity	0% ~ 95%RH
Max. Working Altitude	2000m
Display	Web
Com Interfaces	RS485/CAN/Ethernet
Dimensions (L*W*H)	6058*2438*2896mm
Weight	42 T approx

# e-Mobility



# PEVC2108E (AC Charger)

POWERED BY EMALDO

The PEVC2108E is an EV charging solution designed for commercial sites, fleet operators, and public charging locations that require reliable charging performance in daily operation. It supports the development of scalable e-mobility infrastructure and can be used as part of an integrated energy ecosystem with solar PV and battery storage.

## Key USP's

- Commercial EV charging solution for daily operation.
- Suitable for workplaces, public parking, fleet charging, and destination charging.
- Supports scalable e-mobility infrastructure.
- Can be integrated with BESS to reduce charging-related power peaks.
- Helps businesses offer convenient EV charging services.
- Designed for commercial environments with growing charging demand.



## General

Manufactured	Pilot
Product name	PEVC2108E (AC Charger)

## Power specifications

Input Connection	Single-Phase: 1P+N+PE (3-Phase Optional: 3P+N+PE)
Input Voltage	230 Vac ±10% (400 Vac ±10% Optional)
Input Current	16A or 32A
Frequency	50 Hz or 60 Hz
Output Voltage	230 Vac ±10% (400 Vac ±10% Optional)
Output Current	16A or 32A
Rated Power	7.4 kW (11 kW - 22 kW Optional)

## User Interface & Control

LCD Display	-
User Authentication	RFID (ISO/IEC 14443) / APP
LED Indicator	Green/Blue/Red
Charger Connector	IEC 62196-2 Type 2 (SAE J1772 Type 1 Optional)
Energy Measuring	Embedded meter, 1% accuracy

## Communication

Backend	Bluetooth
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## Protection

Residual Current Protection	Type A 30mA + DC 6mA
Electrical Protection	Over/Under Voltage, Over Current, Short Circuit, Over Temperature, Lightning, Ground Fault, Surge

## Environmental

Operating Temperature	-30°C ~ +50°C
Storage Temperature	-40°C ~ +85°C
Operating Humidity	Max. 93% RH, Non-Condensing
Operating Altitude	≤2000 m
IP / IK Level	IP55, IK08
Cooling Method	Natural Cooling

## Mechanical

Product Dimension (W×D×H)	208 × 102 × 358 mm
Package Dimension (W×D×H)	270 × 220 × 420 mm
Weight	3.3 kg (Net) / 4 kg (Gross)
Charging Cable Length	5 m (Customizable)
Mounting	Wall-mount and Stand-mount
Certifications	EN 61851-1:2019, IEC 62955:2018, IEC 61008-1:2010, IEC/EN 62196-1, CE
Applications	Home charging, Parking garage, EV dealer workshops

# EM-C240

The EM-C240 is a scalable commercial DC fast charger for public, commercial, and fleet charging applications. With modular power options from 60kW to 240kW, it allows operators to match charging capacity to site demand while remaining flexible for future expansion. Designed for indoor and outdoor use, it combines robust protection, smart connectivity, user-friendly operation, and broad vehicle compatibility in one professional charging platform.

## Key USP's

- Scalable DC fast charger for commercial and public EV infrastructure.
- Ideal for fleets, charging hubs, workplaces, retail, and public parking.
- Broad EV compatibility with multiple charging standards.
- Smart OCPP-enabled monitoring and management.
- Intuitive colour touchscreen interface.
- Modular design for easy maintenance and expansion.



## General

Manufactured	Emaldo
Product name	EM-C240

## Power specifications

Input Connection	3-Phase: 3P+N+PE
Input Voltage	400 Vac ±10%
Frequency	50 Hz or 60 Hz
THDi	≤5%
Power Factor	≥0.98
Output Voltage	200Vdc – 1000Vdc
Max. Output Current	250A (300A Optional)
Rated Power	60kW-240kW

## User Interface & Control

LCD Display	10-inch Color Touch Screen (7-inch advertising display version)
User Authentication	RFID (ISO/IEC 14443) (APP/Credit Card Customization)
LED Indicator	Green/Blue/Red
Charger Connector	CCS2 (CCS1 / CHAdeMO/GB/T Optional)
Number of Charging Interfaces	1 or 2
Energy Measuring	DC meter, 1% accuracy

## Communication

Backend	Ethernet (4G Optional)
Charging Protocol	ISO 15118, DIN 70121
Backend Protocol	OCPP 1.6 J/OCPP2.01

## Protection

Residual Current Device	Yes
Internal Fuse	Yes

Electrical Protection	Over/Under Voltage, Over Current, Short Circuit, Over Temperature, Lightning, Ground Fault, Surge
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## Environmental

Operating Temperature	-30°C ~ +50°C
Storage Temperature	-40°C ~ +75°C
Operating Humidity	Max. 93% RH, Non-Condensing
Operating Altitude	≤2000 m
IP / IK Level	IP55, IK10
Cooling Method	Fan Cooling

## Mechanical

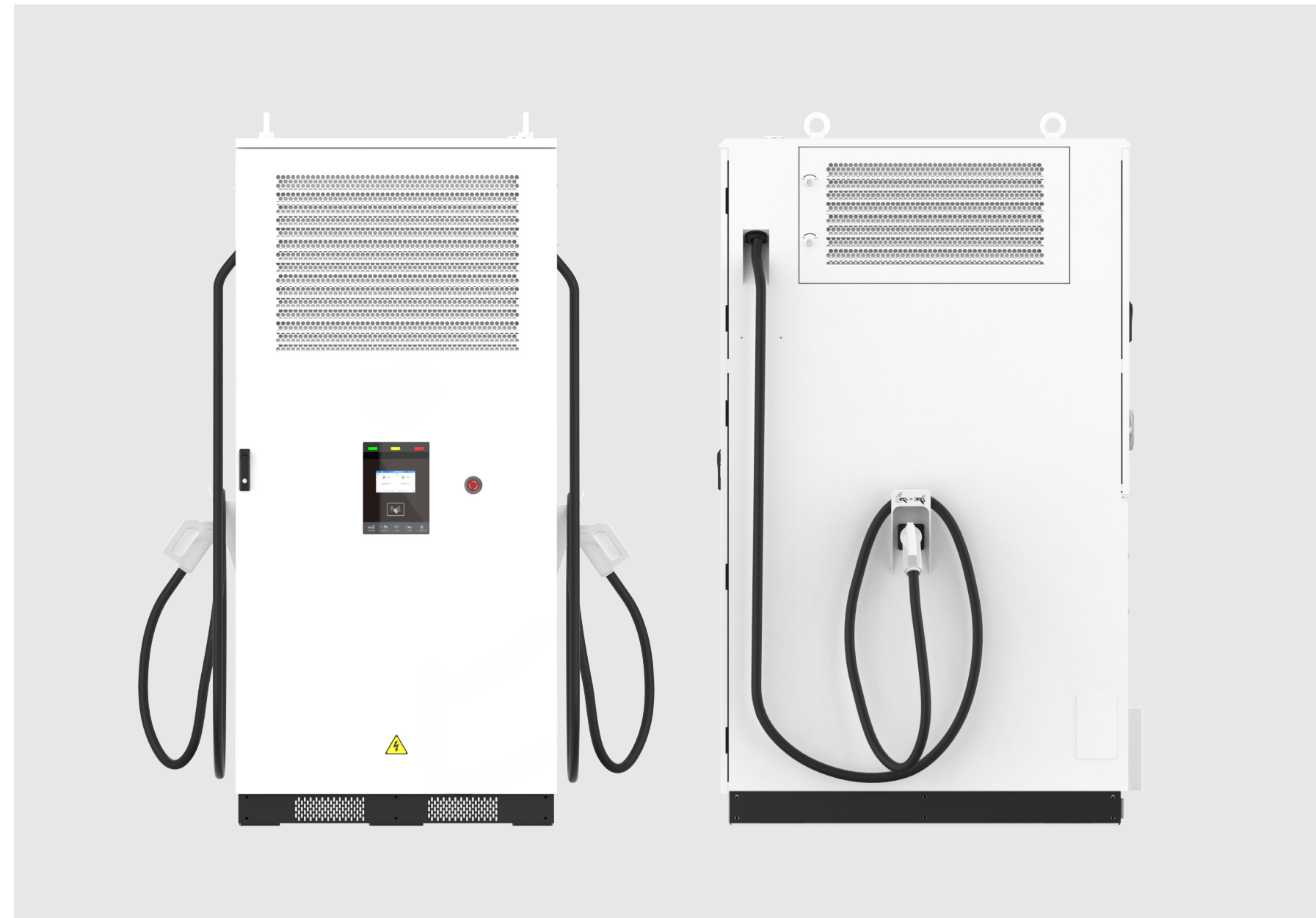
Product Dimension (W×D×H)	750 mm × 650 mm × 2019 mm (W×D×H)
Package Dimension (W×D×H)	1000 × 920 × 2050 mm
Charging Cable Length	5 m (Customizable)
Weight	411 kg (Net) / 428 kg (Gross)
Mounting	Free Standing
Certifications	IEC62196-1, IEC62196-3, IEC 61851-1, IEC61851-23, IEC61851-24, CE

# EM-C+H120

The EM-C+H120 is an EV charging solution designed for commercial sites, fleet operators, and public charging locations that require reliable charging performance in daily operation. It supports the development of scalable e-mobility infrastructure and can be used as part of an integrated energy ecosystem with solar PV and battery storage.

## Key USP's

- Commercial EV charging solution for daily operation.
- Suitable for workplaces, public parking, fleet charging, and destination charging.
- Supports scalable e-mobility infrastructure.
- Can be integrated with BESS to reduce charging-related power peaks.
- Helps businesses offer convenient EV charging services.
- Designed for commercial environments with growing charging demand.



## General

Manufactured	Emaldo
Product name	EM-C+H120

## Core specifications

Rated Power (AC modules)	30 kW / 60 kW
Max DC EV Charge Power	DC 120 kW
Energy Capacity (BESS)	208.99kWh
Battery Chemistry	LFP (Lithium Iron Phosphate)
Thermal Management	Advanced Liquid Cooling (liquid cooled by air-cooled chiller)
Number of DC Guns	2 DC guns
MPPT Module	30/60 kW
Weight	2.5 t
Dimensions (W×D×H)	1300 × 1430 × 2350 mm
Ingress Protection	IP54 / IP54+IK10

## Battery parameters

Battery Cell	Lithium-ion (LFP) 3.2V / 314 Ah
Energy Storage Capacity	208.99 kWh
Dis/Charging Rate	≤0.5C
Cycle Life	>6000 cycles @ 0.5C, 25°C, 70% SoH
Ambient Temperature Range	-20 ~ +50°C
Humidity	5% - 95% RH no condensing
Storage Temperature	-20°C ~ +60°C
Certificate (battery)	CE / IEC62619

## Electrical System (Infeed)

AC Rated Power	ACDC module 30kW/60kW, PCS module 30kW/60kW (B2G)
AC Voltage	380V/400V (50Hz)
Grid Type	3L+PE
PV DC Coupling Input	MPPT module 30/60 kW (optional)
DC Input Voltage	625 Vdc - 850 Vdc

## EV Charger System

Number of Guns	2 DC guns
Charging Plug	CCS2
Voltage Range	150 Vdc - 1000 Vdc
Max. Output Power	DC 120 kW
DC Charging Distribution	Flexible allocation
HMI	7-inch touch screen
Payment System	RFID card / EFTPOS (optional)
Charging Cable	5m/gun
Power Meter	cl. 1.0
Communication	Ethernet, 4G, WiFi
Protocol	OCPP / MQTT
SPD	Level C
IP & IK Ranking	IP54 / IK10
Altitude	≤2000 m
Dimensions H×W×D	2350 × 1300 × 1430 mm
Weight	2.5 t
Cabinet Transportation	Forklift or hoist
Warranty	2 years (extended warranty available)

# Z BOX-EV

POWERED BY EMALDO

The Z BOX-EV is an integrated energy storage and EV charging solution designed for logistics hubs, heavy transport, commercial fleets, charging hubs, and commercial properties. Built to address growing power shortages and limited grid capacity, it enables fast charging while reducing peak demand and minimising the need for costly grid upgrades. Combining reliable energy storage, intelligent energy management, and flexible deployment options, it delivers a practical and scalable solution for modern charging infrastructure.

## Key USP's

- Designed for logistics, heavy transport, fleet charging, charging hubs, and commercial properties.
- Helps solve grid capacity limitations and power shortage challenges.
- Reduces the need for expensive grid upgrades and increased connection capacity.
- Supports 180kW fast charging or dual 90kW charging simultaneously.
- Reliable and flexible energy management for high-demand charging environments.
- Integrated ESS and EV charging solution with compact and scalable deployment.
- Optimised for operational stability, efficiency, and long-term performance.



## General

Manufactured	ZOE
Product name	Z BOX-EV

## Battery data

Cell Type	LFP
Rated Capacity	285Ah
Serial-Parallel Type	1P240S
Rated Capacity Per Pack	43.776kWh
Pack Number	5
System Rated Energy Capacity	218.88kWh
Rated DC Voltage	768V
Rated DC Voltage Range	672~864V
Rated DC Current	342A

## AC data

Rated AC Power	105kW
Rated AC Voltage	400Vac
Rated Frequency	50/60Hz
Rated AC Current	152A
Max. AC Current	167A
Ac Wiring Type	3W/N+PE
Power Factor	-0.99~+0.99

## General data

DOD	90%
Noise	≤75dB
Protection Degree	IP54
Cooling Method	Liquid Cooling/Heating
Fire Suppression System	Aerosol
Operating Temperature Range	-25 °C ~ 55°C (> 45°C Derating)
Relative Humidity	5% ~ 95%RH
Max. Working Altitude	2000m
Display	15-inch Touch Screen
Com Interfaces	RS485/ Ethernet
Dimensions (L*W*H)	2193*1344*1960mm
Weight	3200±50kg(Total Weight)

## Charger data

Number of Charging Guns	2
Charging Power	DC Max 180kW
Charging Gun Line	300A, 5m, CCS2 (Booster/Optional)
Charging Voltage	300~1000V
Efficiency	≥96.5%
Charging Power Module	Air-Cooled
Communication Protocol	Support for OCPP 1.6J and Modbus
EMC	Class A (Industrial)

Contact us for a tailored proposal

Czech Republic

[prodej@emaldo.com](mailto:prodej@emaldo.com)

Finland

[myynti@emaldo.com](mailto:myynti@emaldo.com)

Sweden

[salj@emaldo.com](mailto:salj@emaldo.com)

Denmark

[salg@emaldo.com](mailto:salg@emaldo.com)

Netherlands

[verkoop@emaldo.com](mailto:verkoop@emaldo.com)

