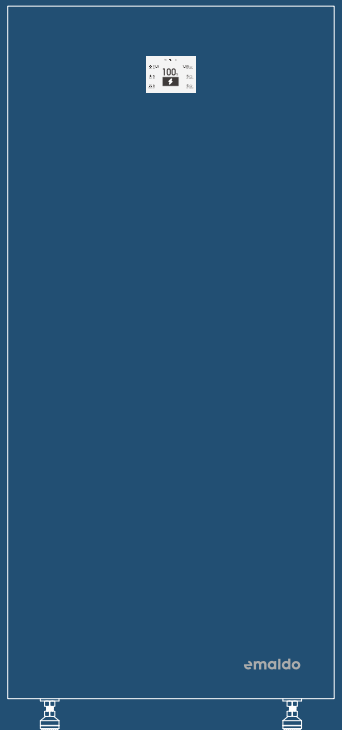
Full Installation Manual

Emaldo® Power Core



emaldo

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Product information
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Setup
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Safety

This guidance is exclusively intended for individuals with a professional background, possessing a thorough understanding of local regulations, standards, and electrical systems. It is imperative that users have received formal professional training and are well-versed in the pertinent knowledge related to this product.

The Emaldo® Power Core has been meticulously crafted in adherence to stringent safety regulations and has successfully undergone rigorous testing. It is imperative to adhere to the applicable safety regulations of the installation site during the processes of installation, operation, and maintenance. Any deviation from proper operational procedures may pose a risk of electric shock, potentially leading to equipment damage and property losses.

Warning Labels


Warning


Do not dispose in trash


Handle with care


Risk of burns


Component is recyclable


EU conformity


Risk of electric shock


This way up


Importance

Disclaimer

Carefully read all safety instructions before commencing any work and strictly adhere to the rules and guidelines when working on or with the Emaldo® Power Core. Emaldo® shall not be held liable for any consequences resulting from the violation of the following instructions:

- Incorrect transportation, storage, installation or use
- Non-professional installation.
- Non-compliance with the operational instructions and safety precautions outlined in this document.
- Unauthorized modifications or removal of the software package
- Operation in extreme environments which are not allowed in this document.
- Repair, disassemble, or change the Emaldo® Power Core without authorization.
- Damages due to force majeure, such as, but not limited to; lightning, earthquakes, fire, and storms.
- Warranty expiration.

General safety

- This product is not suitable for life support equipment or medical equipment.
- Only utilize components or accessories that are either produced by Emaldo® or recommended by our authorized partners.
- Do not attempt to install the equipment in the presence of any damage.

Personal safety

- Heavy lifting is involved. Ensure that more than one person is present during the lifting process, or use appropriate lifting equipment.
- Use safety equipment, such as safety glasses, protective devices, steel-toed safety boots and helmets.
- Adhere to standard safety measures, including the removal of all jewelry, the utilization of insulation tools, and wearing non-conducting clothing.
- Ensure that children, pets, and other animals are kept at a safe distance from the energy storage system, photovoltaic array, and power grid modules.
- Using the equipment in a manner not specified by the manufacturer may compromise the protection provided by the equipment.

Product safety

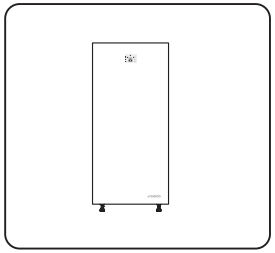
- Use HVDC isolators per regulations. Turn off the energy storage system 5 mins before installation for safety.
- Disconnect all power supplies before maintenance. Avoid opening the upper right-side compartment and pulling AC/DC cables during system operation.
- Cabinet becomes hot during operation; refrain from opening or touching internal parts. Allow adequate cooling time before conducting maintenance on the system.
- Avoid installing or using the system in wet or moist environments, or areas with corrosive gases or liquids.
- Avoid storing flammable and explosive items or equipment in the same room.
- Verify that the AC cable, DC cable, and ground cable dimensions comply with local specifications.
- Strictly adhere to spacing requirements. Maintain open vents and ensure smooth air circulation around the equipment.
- Do not disassemble or modify the Emaldo® 3-in-1 inverter, Emaldo® Power Boxes, or any other system component.
- Verify that the proposed photovoltaic array's output voltage is below the system's maximum rated input voltage to prevent potential damage and maintain warranty validity.
- Solar modules must have an IEC61730 A rating.
- Make sure that the installation location complies with spacing requirements.
- Do not charge the batteries if in a frozen state.
- Avoid exposing the battery to high-temperature environments or near heating equipment, including sunshine, fire sources, transformers, and heaters, as overheating may lead to fire and explosion.
- Avoid exposing the battery to high-temperature environments or near heating equipment, including sunshine, fire sources, transformers, and heaters, as overheating may lead to fire and explosion.

Emergency responses

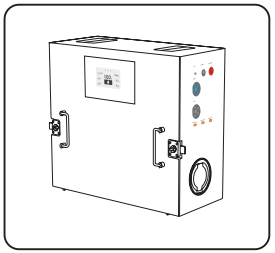
Emaldo® considers foreseeable risk scenarios and designs to minimize hazards. However, in the event of the following situation, follow the instructions below:

Emergency	Action
Leakage	Avoid contact with leaking liquid or gas. If you come into contact with leaking electrolyte, follow the instructions below immediately: - Inhalation: Evacuate the contaminated area and seek medical help. - Eye contact: Rinse eyes with flowing water for 15 minutes and seek medical help. - Skin contact: Rinse the affected area thoroughly with soap and water and seek medical help. - Ingestion: Induce vomiting and seek medical help.
Fire	Emaldo® Power Core systems are very unlikely to ignite spontaneously. In the event of a fire, do not attempt to extinguish it; instead, evacuate people immediately.
Liquide	If the Emaldo® Power Core is flooded or submerged, refrain from accessing it. Contact Emaldo® promptly for technical assistance.
Damage	Damaged systems pose a risk and require special attention. They are no longer suitable for use and may pose a danger. If the Emaldo® Power Core is damaged, discontinue use and promptly contact Growatt or the distributor.

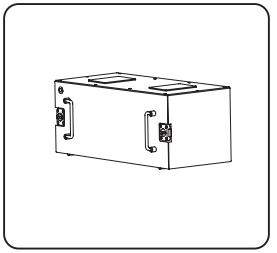
Included



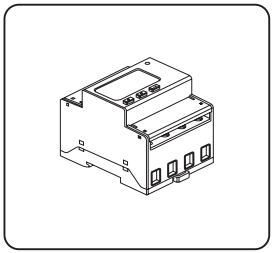
Emaldo® Cabinet x 1



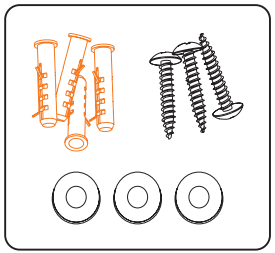
Emaldo® 3-in-1 Inverter



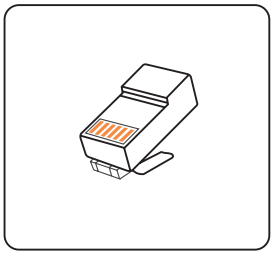
Emaldo® Power Box (Battery)



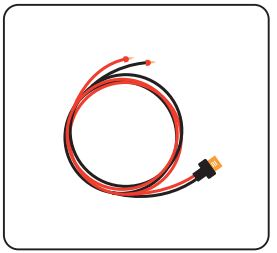
Smart Meter x 1



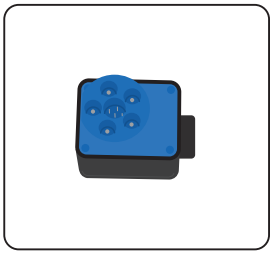
Installation Kit x 1



COM Connector x 2



MPPT Cable x 3



Main AC Connector x 1

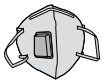
Not Included: RCD 40A 30mA Type A.

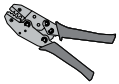
Tools required


Safety glasses


Safety shoes


Safety gloves


Dust mask

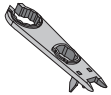

Crystal head wire crymper


Diagonal pliers


Wire stripper

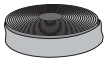

Impact drill


Heat gun


DC terminal tool


Marker


Spirit level

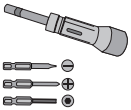

Heat shrink tube


Rubber hammer


Vacuum cleaner

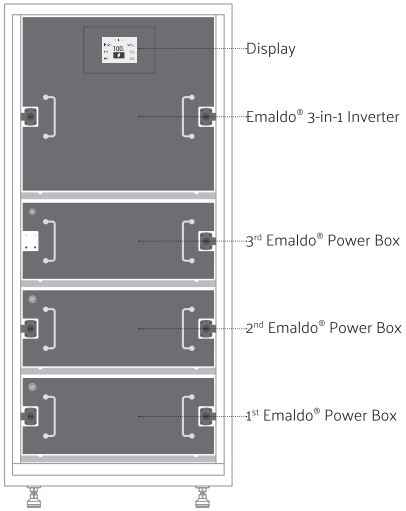

Multimeter


Zip ties

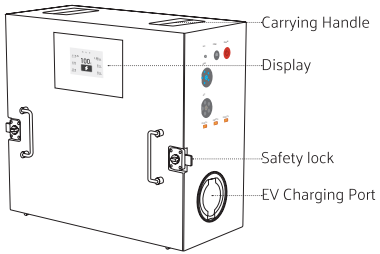

Torque wrench

Overview

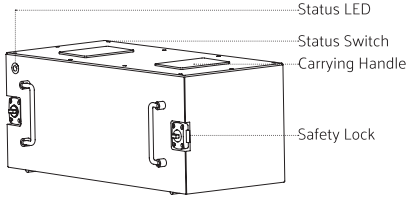
Emaldo® Power Core



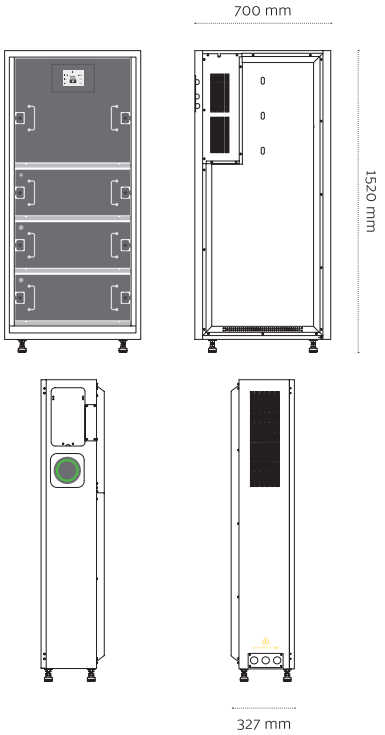
Emaldo® 3-in-1 Inverter



Emaldo® Power Box (Battery)



Appearance & Product Specifications



Cabinet	Specification
Gross Weight (kg)	71 kg
Net Weight (kg)	58,5 kg
Dimensions (W x H x D mm)	700 x 1520 x 327 mm
Colours	Glacial White Rune Grey Nordic Pine Green

Inverter	Specification
Gross Weight (kg)	52,5 kg
Net Weight (kg)	48,8 kg
Dimensions (W x H x D mm)	590 x 278 x 547 mm

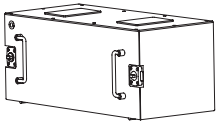
Battery	Specification
Gross Weight (kg)	36 kg
Net Weight (kg)	34,9 kg
Dimensions (W x H x D mm)	592 x 262 x 240 mm

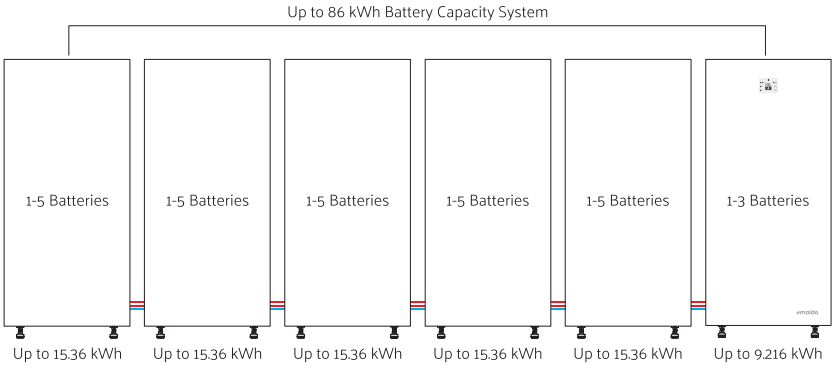
Optional Battery Expansion

The Emaldo® Power Core's battery storage capacity is extendable to a maximum of 86 kWh. This expansion is achieved by integrating up to five battery expansion cabinets, each accommodating up to five Emaldo® Power Boxes (batteries) into the system.

Specification	Emaldo® Power Core	Expansion Cabinet x 1	Expansion Cabinet x 2	Expansion Cabinet x 3	Expansion Cabinet x 4	Expansion Cabinet x 5
Battery Capacity (max)	9.216 kWh	24.576 kWh	39.936 kWh	55.296 kWh	70,656 kWh	86 kWh
Installation Space Required (horizontal wall space)	170 cm	290 cm	410 cm	530 cm	650 cm	770 cm

Battery	Specification
Capacity	3073Wh





Technical Specifications

AC input	Specification
Rated Input Power	10800VA
Rated Input Current	3 x 15.6A
Rated Input Voltage	400/230Vac
Rated Input Frequency	50/60Hz
Max Input Current	3 x 15,8A

AC Output (Off-grid)	Specification
Rated Output Apparent Power	10800VA
Rated Output Current	3 x 15,6A
Max Output Current	3 x 15.8A
Rated Output Voltage	400/230Vac
Rated Output Frequency	50/60 (± 0.5)Hz

AC Output (On-grid)	Specification
Rated Output Apparent Power	10800VA
Rated Output Current	3 x 15,6A
Rated Output Voltage	400/230Vac
Rated Output Frequency	50/60Hz
Max Output Current	3 x 15,8A
Max Power Factor	0.8i...1...0.8c
THCv	<3%

PV Input	Specification
Max Input Power	10800W
Max Input Open-circuit Voltage	550Vdc
MPPT Voltage Range	90-500Vdc
Start-up Voltage	100Vdc
Max Input Current	3 x 13A
Max Short-circuit Input Current	3 x 18A
MPPT Input String Number	3

EV Output	Specification
Rated Output Power	10800W
Rated Output Current	3 x 15.6A
Rated Output Voltage	400/230Vac
Interface Type	IEC Type2 (IEC62169)
Leakage Protection	Integrated (external)

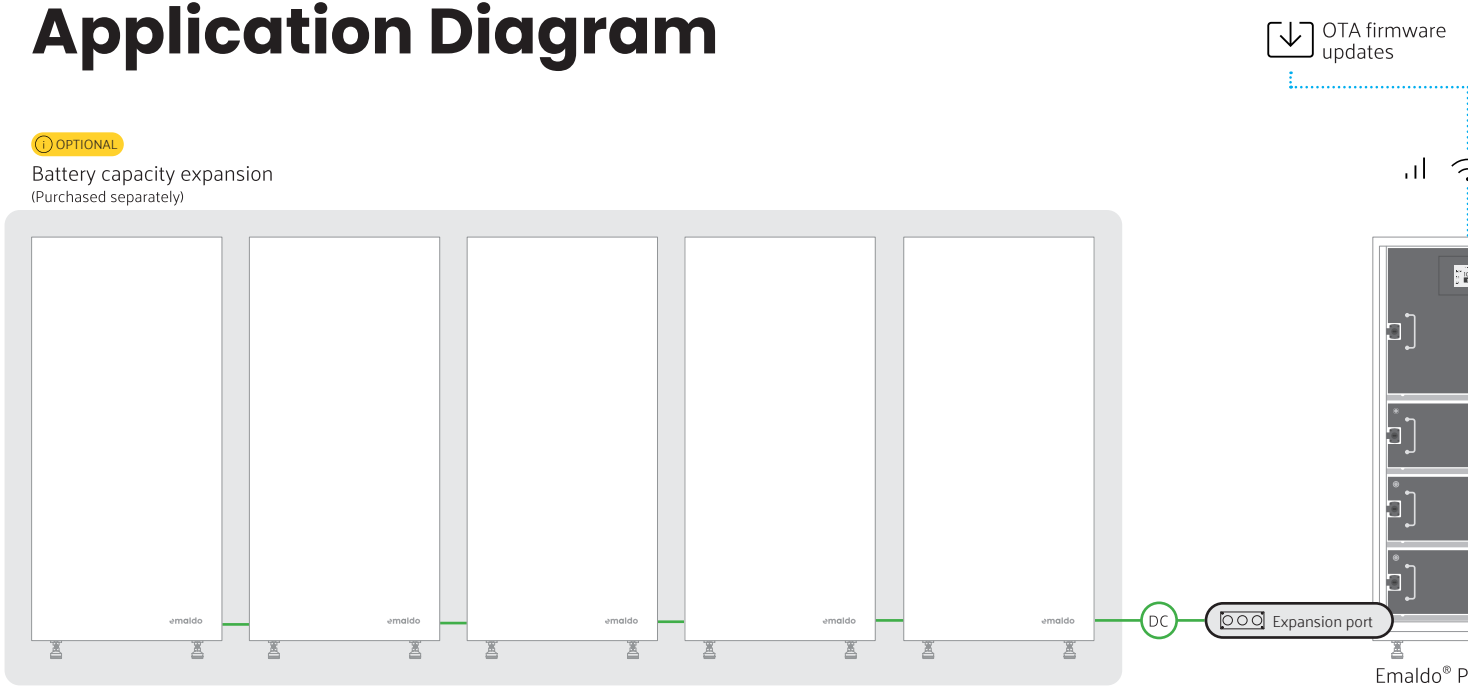
Battery	Specification
Battery Type	LFP (LiFePO4)
Battery Capacity (per battery)	3072 Wh
Rated Battery Voltage	51.2V
Battery Voltage Range	40V~58.8V
Max Charging Current	100A (based on battery qty)
Max Discharging Current	180A (based on battery qty)

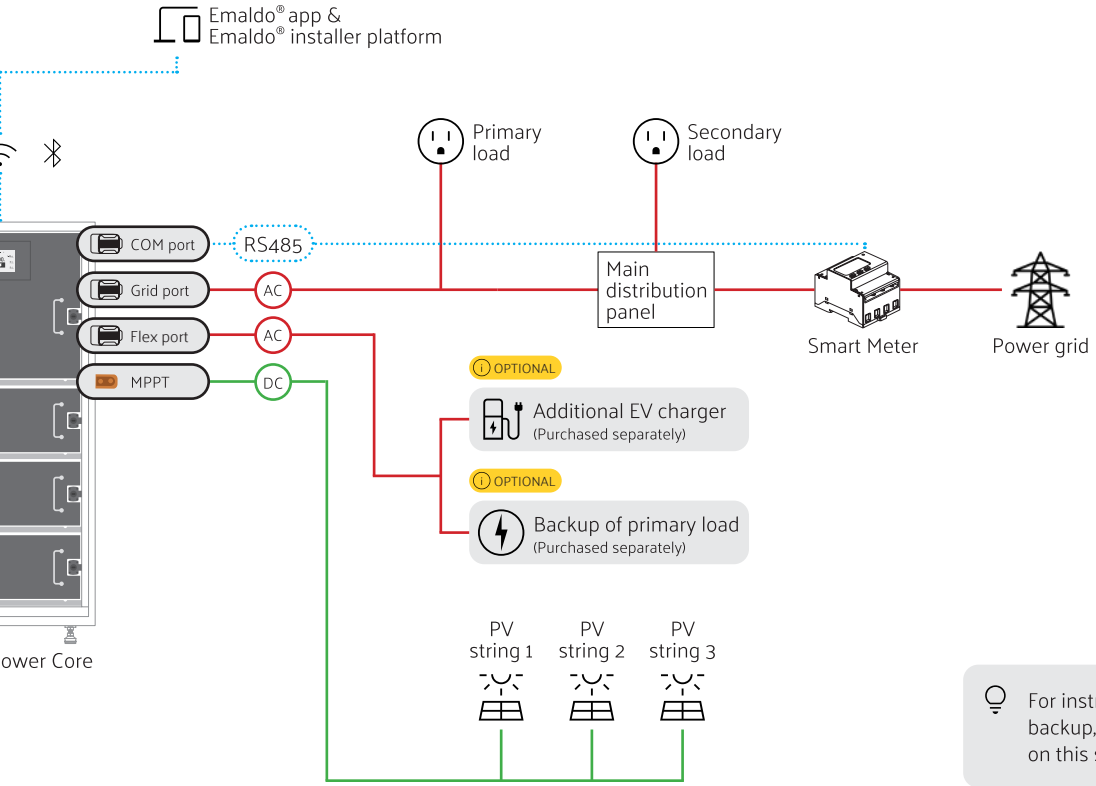
Efficiency	Specification
Max Efficiency	97.00%
European Efficiency	96.00%

Protection	Specification
Anti-islanding Protection	Integrated
Reverse Connection Protection of Photovoltaic Input	Integrated
Insulation Impedance Detection	Integrated
Residual Current Detection	Integrated
Output Overcurrent Protection	Integrated
Output Short Circuit Protection	Integrated
Output Overvoltage Protection	Integrated

General	Specification
Operating Temperature	-20~50 °C
Relative Humidity	0~95%
Altitude	2000m
Cooling	Forced air
Noise	<50dB
Display	E-INK + LED + APP
Communication	RS485 (Smart Meter)
4G/WiFi/Bluetooth	YES/YES/YES
Topology	Transformerless
Weight (kg)	215 kg (including 3 batteries)
Dimensions (W x H x D mm)	700 x 1520 x 327 mm

Application Diagram





For instruction on installations with power backup, please follow our separate manual on this subject.

Before Installation

Avoid

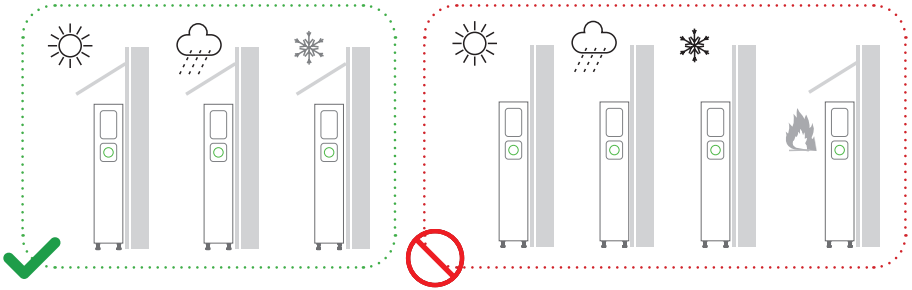
- Avoid installing the Emaldo® Power Core in any other way than upright vertically as illustrated in this manual.
- Avoid installing the Emaldo® Power Core in areas containing flammable or explosive materials.

Pay special attantion to

- Install the Emaldo® Power Core in a secure location with restricted access for children and pets to minimize potential risks.
- Ensure the Emaldo® Power Core is securely positioned on a stable surface and properly anchored to the wall to prevent any possibility of toppling.

When installing outdoors

- Do not install the Emaldo® Power Core outdoors without protective covering. When installing it in an outdoor environment, ensure placement under a roof or eaves, preventing direct exposure to rain and splashing.
- The Emaldo® Power Core is designed to operate within ambient temperatures ranging from -20°C to 50°C. However, system efficiency may be adversely affected in sub-zero temperatures and when ambient temperatures exceed 45°C.



Check delivered parts

Before proceeding to unpack the Emaldo® Power Core, carefully inspect the outer packaging for visible damage, such as holes, cracks, or any indicators of potential internal issues. Confirm that the energy storage system's model matches the expected one. In case of any packaging anomalies or model discrepancies, refrain from opening the package and promptly contact your dealer.

Upon unpacking the equipment, conduct a thorough check to ensure all delivered components are present and free from any noticeable external damage. Should there be any missing items or signs of damage, please notify your dealer immediately.

Installation of the cabinet

The Emaldo® Power Core is IP54 rated and can be installed both indoors and outdoors. Outdoor installation should be done under eaves overhang.

⚠ Prior to drilling holes, it is imperative to exercise caution and avoid potential interference with concealed water supply lines and electrical power lines within the wall.

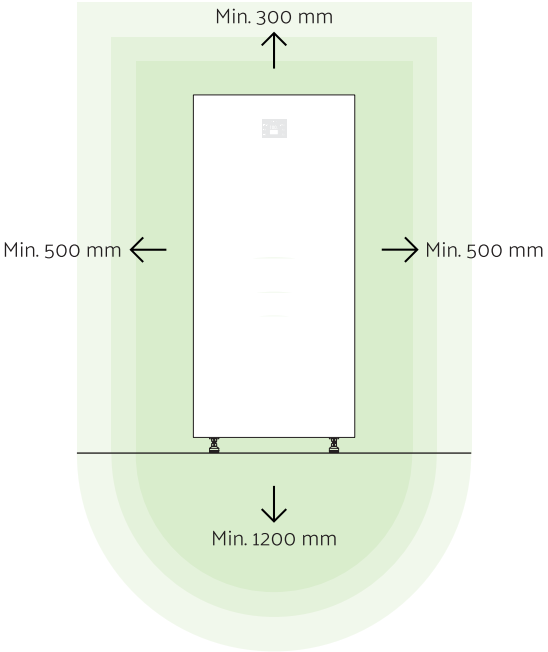
⓵ It is imperative to use appropriate anchors when securing the Emaldo® Power Core cabinet to the wall. Emaldo will not assume any responsibility for any damage resulting from the use of unsuitable anchors for product installation.

Emaldo supplies components and parts, but the diverse nature of installation surfaces may necessitate the use of additional components and parts.

Step 1

- Make sure the installation location allows for enough free space on all sides of the Emaldo® Power Core, except for the backside, which must be secured to the wall.

For installations without battery expansion cabinets, it is advisable to position the Emaldo® Power Core to the right side on the designated installation point. This arrangement facilitates potential expansion of battery cabinets on the left side in the future.



Step 2

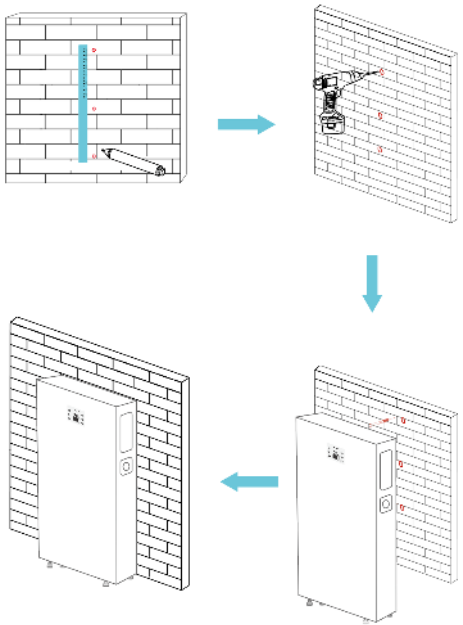
- Use a line marking template to determine drilling locations.
- Level the hole location with a leveling instrument.
- Mark the locations with a marker.

Step 3

- Use an electric drill to create installation holes for M6 bolts at the marked points.

Step 4

- Align the cabinet with the installation holes.
- Tap expansion bolts into the wall holes with a hammer.
- Install nuts, including flat washers.
- Tighten the nuts securely using a wrench.



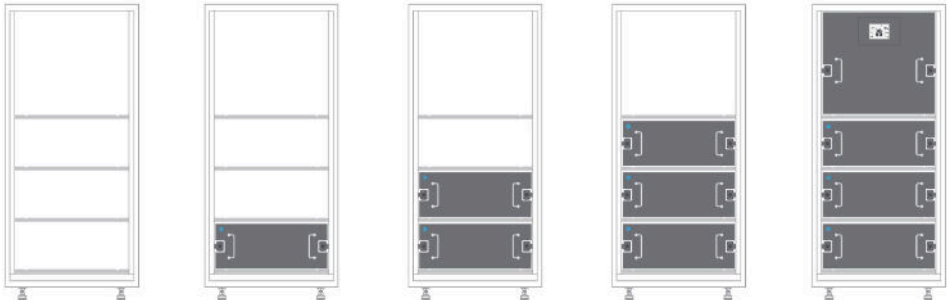
Installation of inverter and batteries

Step 1

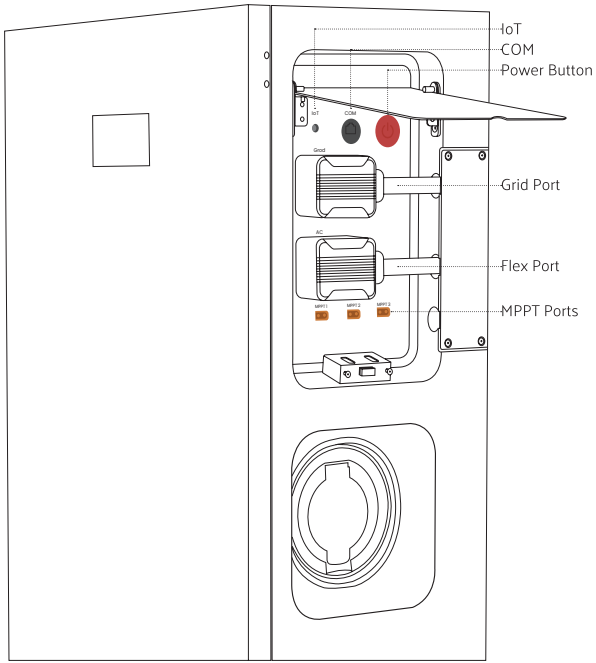
- Securely grip the top handle of the Power Box using both hands or with assistance from two individuals.
- Align the Power Box with the SlideON guide rails in cabinet, release the handle, make any necessary adjustments to its position push it in place.
- Turn the safety lock on both sides of the Battery Box to secure it in place.

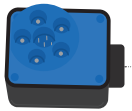
Step 2

- Proceed to install the second and third Power Box and the 3-in1 inverter, in a bottom-up sequence, using the same approach.



Electrical connection

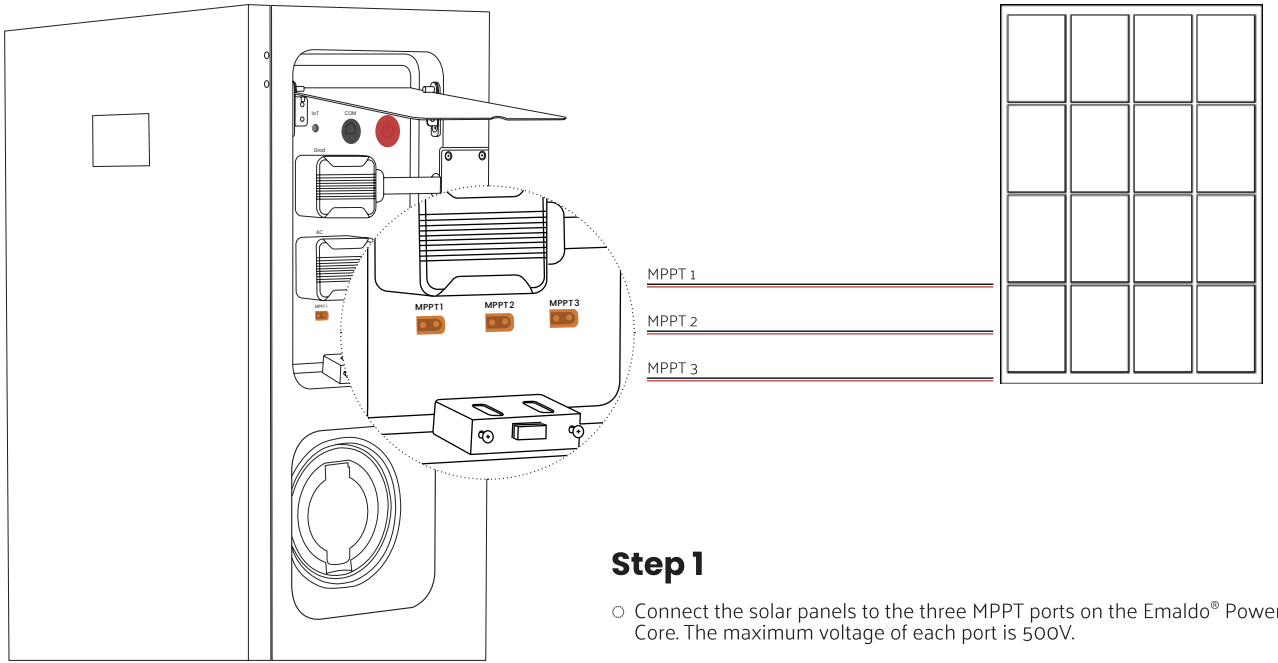




Step 1

- Connect the Main AC connector to the Grid Port on the Emaldo® Power Core.
- Ensure the connection is done to a RCD of at least 40A 30mA Type A.

Photovoltaic array connection



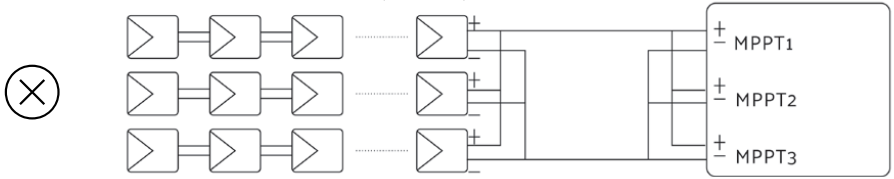
Step 1

- Connect the solar panels to the three MPPT ports on the Emaldo® Power Core. The maximum voltage of each port is 500V.

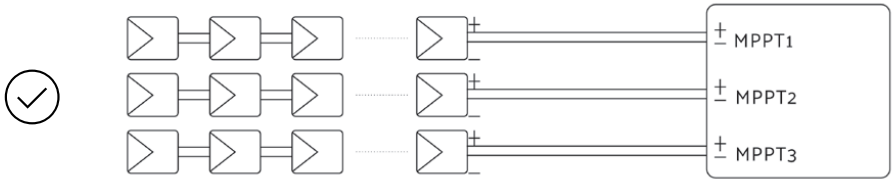
Note

Please ensure to connect the PV array according to the below illustration.

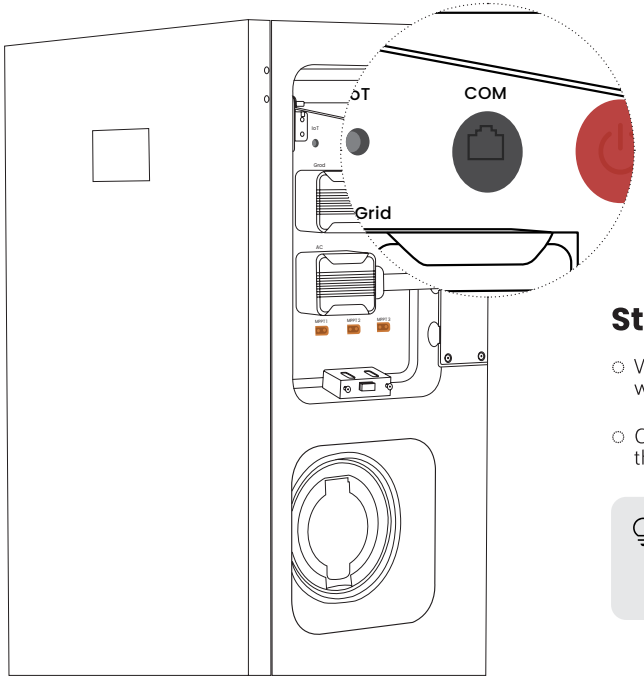
Do NOT connect the PV array this way.



DO connect the PV array this way.



Installation of smart meter



1	2	3	4	5	6	7	8
-	-	-	-	485A	485B	-	-

Step 1

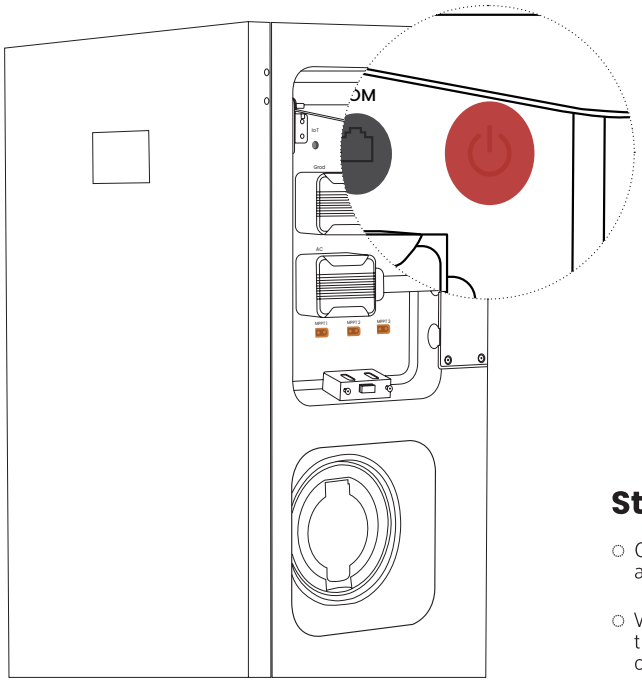
- Wire the RJ-45 Ethernet cable according to the illustration. Make sure the wiring is done the same way in the RJ-45 plugs in both ends of the cable.
- Connect the cable to the COM port in the Emaldo® Power Core and to the smart meter.

Smart meter wires go to terminals 5 and 6. This is true using both a directly wired smart meter and a CT smart meter. For more information refer to the user manual that comes with the smart meter.

Inspection of installation

- The installation of the Emaldo® Power Core has been executed with precision and security.
- The cable layout has been meticulously planned to align with the specific requirements and preferences of the end-user.
- Ensure consistent application of cable ties, cutting them uniformly to eliminate any sharp corners or edges.
- All power to the Emaldo® Power Core and its associated connections has been deactivated.
- The AC cable, Grid cable, and smart meter COM cable have been securely and reliably connected in accordance with proper protocols.
- The installation space has been appropriately organized, maintaining a clean and orderly environment with no remnants from the installation process.
- Clear information has been provided to the end-user regarding how to reach out for support and service.

Power on



Step 1

- Open the cover plate on the right side of Emaldo® Power Core, and press and hold the power button until the display lights up.
- Wait for the Emaldo® Power Core to initiate. You can continue setting up the Emaldo® Power Core from the Emaldo® app, when you see this icon on the display.

Setup in the Emaldo® app

Step 1

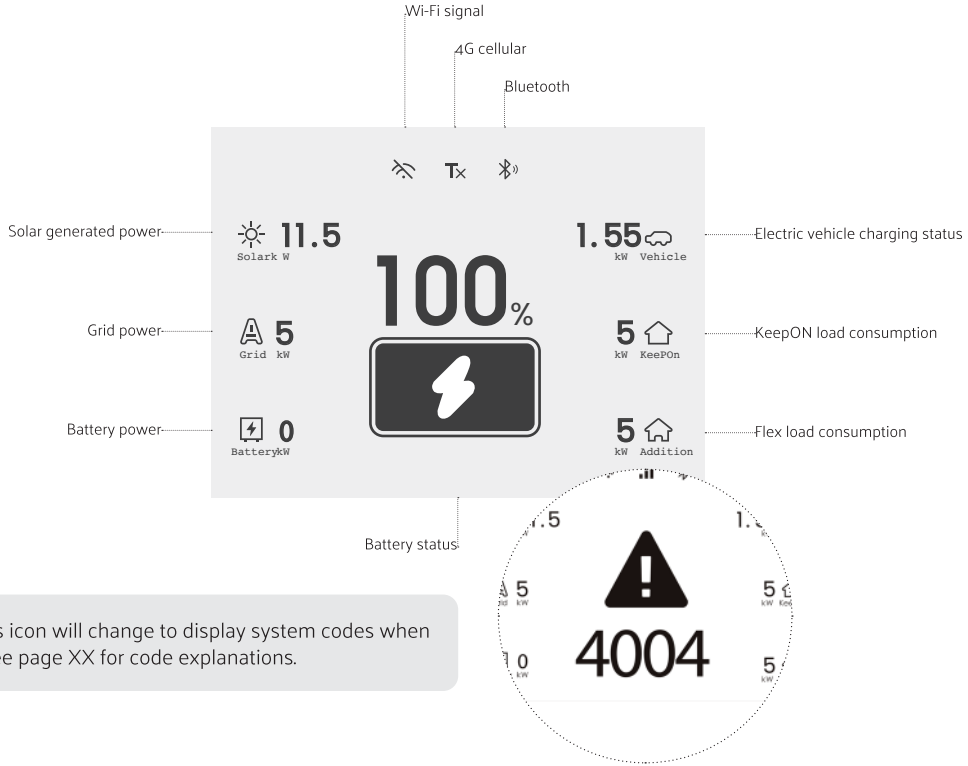
- Download the Emaldo® app by scanning the Download QR code above with the camera on your phone, or download it from either Google Play or the App Store.
- Create an account.
- Scan the Activation code above or on the front of the Emaldo® 3-in-1 inverter to connect the Emaldo® Power Core.

Download App

Activate

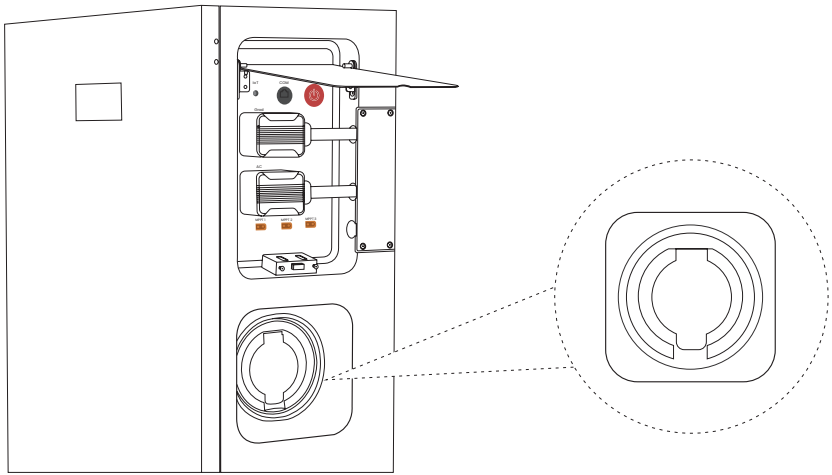
To learn more about the setup and settings of the Emaldo® Power Core, please refer to the App User Guide which is included with the product.

Reading the display



Battery status icon will change to display system codes when applicable. See page XX for code explanations.

Electric vehicle charging



Step 1

- Open the cover and insert the charging cable.

Step 2

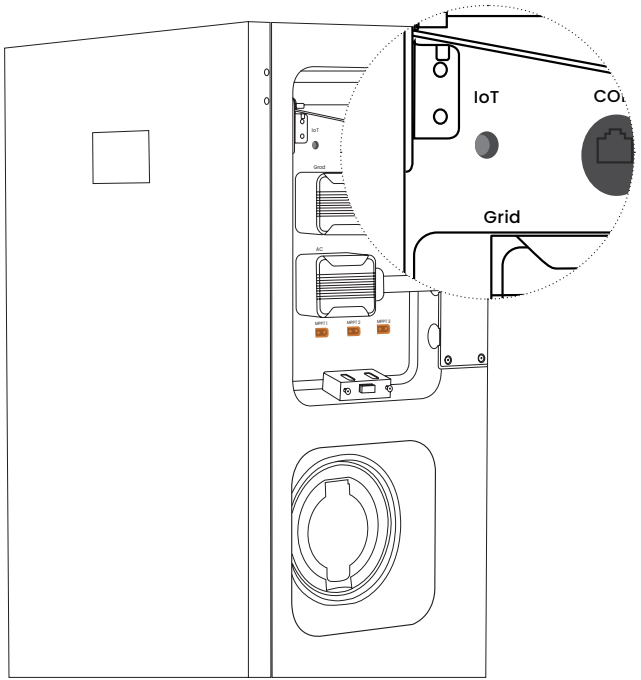
- Insert the other end of the charging cable in charging port of your electric vehicle.

Step 3

- The status ring on the Emaldo® Power Core illuminates in blue during the charging process.

The length of the included charging cable is 5 meters.

Trouble shooting



Restart IoT

- Press the IoT button briefly; a successful restart of the IoT is indicated by the audible confirmation of a "beep" sound.

Factory reset IoT

- Hold down the IoT button for at least 10 seconds; upon hearing three consecutive "beep" sounds, the IoT device will confirm successful restoration to factory settings.

Following the IoT reset, all configurations for the Emaldo® Power Core will be erased and reset to factory defaults.

System codes

Code	Decription	Effected module	Recommended solution
1	Low Battery Protection	IoT	Charge batteries as soon as possible
101	MCU Master Update Failure	IoT	Charge batteries and restart the inverter
102	MCU Slave Update Failure	IoT	Charge batteries and restart the inverter
103	Cabinet Update Failure	IoT	Charge batteries and restart the inverter
104	Inverter Update Failure	IoT	Charge batteries and restart the inverter
105	BMS 106 Update Failure	IoT	Charge batteries and restart the inverter
106	BMS Pack Update Failure	IoT	Charge batteries and restart the inverter
107	EV Update Failure	IoT	Charge batteries and restart the inverter
1001	Inverter - Battery Undervoltage	Inverter	Restart the inverter; if the issue persists, contact tech support
1002	Inverter - Battery Overtemperature	Inverter	Restart the inverter; if the issue persists, contact tech support
1003	Inverter - Battery Overcurrent	Inverter	Restart the inverter; if the issue persists, contact tech support
1004	Inverter - Battery Hardware overcurrent	Inverter	Restart the inverter; if the issue persists, contact tech support
1005	Inverter - Booster Radiator 1 Overtemperature	Inverter	Restart the inverter; if the issue persists, contact tech support
1006	Inverter - Booster Radiator 2 Overtemperature	Inverter	Restart the inverter; if the issue persists, contact tech support
1007	Inverter - Booster Radiator 3 Overtemperature	Inverter	Restart the inverter; if the issue persists, contact tech support
1008	Inverter - Booster Radiator 1 Fault	Inverter	Restart the inverter; if the issue persists, contact tech support
1009	Inverter - Booster Radiator 2 Fault	Inverter	Restart the inverter; if the issue persists, contact tech support
1010	Inverter - Booster Radiator 3 Fault	Inverter	Restart the inverter; if the issue persists, contact tech support
1100	Inverter Output Overvoltage	Inverter	Restart the inverter; if the issue persists, contact tech support
1101	Inverter Output Undervoltage	Inverter	Restart the inverter; if the issue persists, contact tech support

System codes

Code	Decription	Effected module	Recommended solution
1103	High DC Component of Inverter Current	Inverter	Restart the inverter; if the issue persists, contact tech support
1104	Inverter Current Overcurrent	Inverter	Restart the inverter; if the issue persists, contact tech support
1105	Inverter Current Hardware Overcurrent	Inverter	Restart the inverter; if the issue persists, contact tech support
1106	Inverter Output Short Circuit	Inverter	Restart the inverter; if the issue persists, contact tech support
1107	105% Overloaded	Inverter	Restart the inverter; if the issue persists, contact tech support
1108	120% Overloaded	Inverter	Restart the inverter; if the issue persists, contact tech support
1109	200% Overloaded	Inverter	Restart the inverter; if the issue persists, contact tech support
1110	Inverter Radiator Overtemperature	Inverter	Restart the inverter; if the issue persists, contact tech support
1111	Inverter Radiator Failure	Inverter	Restart the inverter; if the issue persists, contact tech support
1200	Instantaneous Overvoltage of Power Grid	Inverter	Restart the inverter; if the issue persists, contact tech support
1201	Grid RMS Overvoltage Level 1	Inverter	Restart the inverter; if the issue persists, contact tech support
1202	Grid RMS Overvoltage Level 2	Inverter	Restart the inverter; if the issue persists, contact tech support
1203	Grid RMS Undervoltage Level 1	Inverter	Restart the inverter; if the issue persists, contact tech support
1204	Grid RMS Undervoltage Level 2	Inverter	Restart the inverter; if the issue persists, contact tech support
1205	Instantaneous Undervoltage of Grid	Inverter	Restart the inverter; if the issue persists, contact tech support
1206	Grid Frequency: Overfrequency Level 1	Inverter	Restart the inverter; if the issue persists, contact tech support
1207	Grid Frequency: Overfrequency Level 2	Inverter	Restart the inverter; if the issue persists, contact tech support
1208	Grid Frequency: Underfrequency level 1	Inverter	Restart the inverter; if the issue persists, contact tech support
1209	Grid Frequency: Underfrequency level 2	Inverter	Restart the inverter; if the issue persists, contact tech support
1210	Abnormal Grid Envelope	Inverter	Restart the inverter; if the issue persists, contact tech support

System codes

Code	Decription	Effected module	Recommended solution
1211	Abnormal Phase Locking of Grid	Inverter	Restart the inverter; if the issue persists, contact tech support
1212	Abnormal Detection of Stuck Buffer Relay	Inverter	Restart the inverter; if the issue persists, contact tech support
1213	Abnormal Detection of Main Relay Sticking	Inverter	Restart the inverter; if the issue persists, contact tech support
1300	Abnormal Inverter Insulation Detection	Inverter	Restart the inverter; if the issue persists, contact tech support
1301	Abnormal Inverter Leakage Detection	Inverter	Restart the inverter; if the issue persists, contact tech support
1303	Inverter Bus Overvoltage Level 1	Inverter	Restart the inverter; if the issue persists, contact tech support
1304	Inverter Bus Overvoltage Level 2	Inverter	Restart the inverter; if the issue persists, contact tech support
1305	Inverter Bus Undervoltage Level 1	Inverter	Restart the inverter; if the issue persists, contact tech support
1306	Inverter Bus Undervoltage Level 2	Inverter	Restart the inverter; if the issue persists, contact tech support
1307	Inverter Bus Fault	Inverter	Restart the inverter; if the issue persists, contact tech support
1308	Inverter Power Down	Inverter	Restart the inverter; if the issue persists, contact tech support
1309	Transformer Overtemperature	Inverter	Restart the inverter; if the issue persists, contact tech support
1310	Transformer Fault	Inverter	Restart the inverter; if the issue persists, contact tech support
1311	Inverter Communication Fault	Inverter	Restart the inverter; if the issue persists, contact tech support
1312	Inverter Fans Fault	Inverter	Restart the inverter; if the issue persists, contact tech support
1400	PV Overvoltage	Inverter	Restart the inverter; if the issue persists, contact tech support
1402	PV Overcurrent	Inverter	Restart the inverter; if the issue persists, contact tech support
1403	PV Radiator 1 Overtemperature	Inverter	Restart the inverter; if the issue persists, contact tech support
1404	PV Radiator 1 Fault	Inverter	Restart the inverter; if the issue persists, contact tech support
1600	Inverter Enabling Hardware Failure	Inverter	Restart the inverter; if the issue persists, contact tech support

System codes

Code	Decription	Effected module	Recommended solution
1601	Communication Fault between DC and Inverter	Inverter	Restart the inverter; if the issue persists, contact tech support
2000	EV Leakage Protection	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2001	EV Overvoltage Protection	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2002	EV Undervoltage Protection	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2003	EV Overcurrent Protection	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2004	EV Overheating Protection	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2005	EV Leakage Self-test Exception	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2006	EV Ground Wire Missing	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2007	EV CP Level Exception	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2008	EV Relay Abnormal	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2009	EV Auxiliary Processor Exception	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2010	EV System 5v Exception	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
2011	EV Connector Communication Failure	EV Charging Port	Reconnect charger; if the issue persists, contact tech support
3000	PV overvoltage	PV	Reconnect PV cable, restart the inverter; if the issue persists, contact tech support
3002	PV overcurrent	PV	Reconnect PV cable, restart the inverter; if the issue persists, contact tech support
3003	PV radiator 1 overtemperature	PV	Reconnect PV cable, restart the inverter; if the issue persists, contact tech support
3004	PV radiator 1 fault	PV	Reconnect PV cable, restart the inverter; if the issue persists, contact tech support
4000	Cabinet Water Sensor Alarm	Cabinet	Check installation environment; if the issue persists, contact tech support

System codes

Code	Decription	Effected module	Recommended solution
4002	Fans in Cabinet Abnormal	Cabinet	Check installation environment; if the issue persists, contact tech support
4003	Accessories of Cabinet Communication Failure	Cabinet	Check installation environment; if the issue persists, contact tech support
5002	Battery Hardware Failure	Batteries	Contact tech support
5003	Battery Discharge High Temperature Alarm	Batteries	Contact tech support
5004	Battery Low Voltage Alarm	Batteries	Contact tech support
5005	Battery Discharge Overcurrent Alarm	Batteries	Contact tech support
5006	Battery Fet High Temperature Protection	Batteries	Contact tech support
5007	Battery Charging High Temperature Protection	Batteries	Contact tech support
5008	Battery Charging Low Temperature Protection	Batteries	Contact tech support
5009	Battery Discharging High Temperature Protection	Batteries	Contact tech support
5010	Battery Discharging Low Temperature Protection	Batteries	Contact tech support
5011	Battery Discharging Short Circuit Protection	Batteries	Contact tech support
5012	Battery Charging Overcurrent Protection	Batteries	Contact tech support
5013	Battery Low Voltage Protection	Batteries	Contact tech support
5015	Battery pack Communication Failure	Batteries	Contact tech support
6000	Offline Overload Protection	System	Restart the inverter; if the issue persists, contact tech support
6001	The SOC of Pack is too Low	System	Restart the inverter; if the issue persists, contact tech support
6002	Bus Voltage is too Low	System	Contact tech support
6003	The Temperature of the System Test is too High	System	Restart the inverter; if the issue persists, contact tech support
6004	The Temperature of the System Test is too Low	System	Restart the inverter; if the issue persists, contact tech support

System codes

Code	Decription	Effected module	Recommended solution
6005	Wrong Number of Cabinet Indication	System	Contact tech support
6006	Battery Performance Deterioration	System	Contact tech support
6007	Inverter and L-out Wiring Error	System	Contact tech support
6008	Meter Wiring Error	System	Contact tech support
6009	gb_box_unexist_for_hard 9	System	Contact tech support
6010	Battery in Maintenance	System	Contact tech support
7000	MCU Communication Failure	Communication	Contact tech support
7001	Three-phase Meter Communication Failure	Communication	Contact tech support

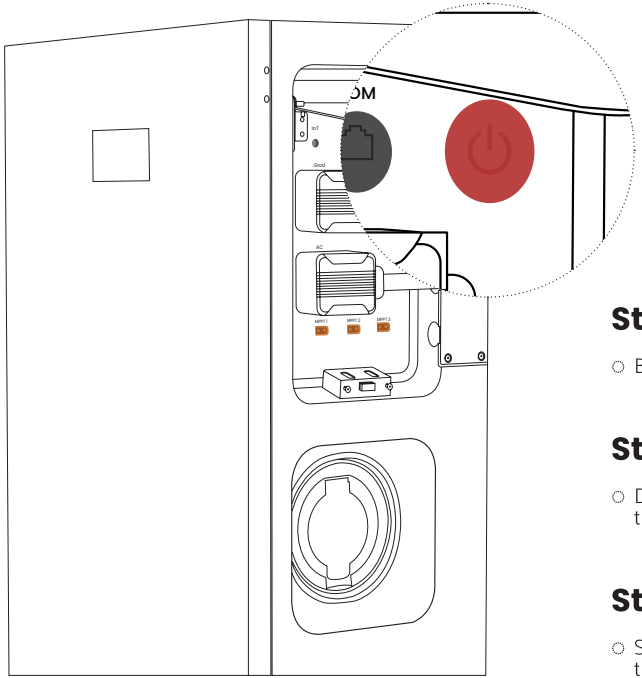
Maintenance

For sustained and optimal performance of the Emaldo® Power Core, it is advisable to follow the routine maintenance procedures outlined in this section.

⚠ After powering down the system, residual electricity and heat may remain in the equipment, posing a risk of electric shock or burns. Therefore, wait for 5 minutes after system shutdown, wear protective gloves, ensure all indicators on the Emaldo® Power Core are off before proceeding with maintenance operations.

⚠ While the Emaldo® Power Core is in operation, simply disconnecting the main switch doesn't fully power down the system, prohibiting maintenance operations.

Ensure complete power down



Step 1

- Briefly press the power button of the Emaldo® Power Core to power it off.

Step 2

- Disconnect the DC isolator switch between the Emaldo® Power Core and the PV string.

Step 3

- Switch the RCD (Grid, AC) circuit breaker in the main distribution panel to the OFF position.

Task	Method	How often
System cleaning	Perform routine checks on the air inlet and outlet to identify and clear any obstructions, dust, or dirt.	Every 6-12 months
System operation checkup	Conduct visual inspections for damage or deformation of the Emaldo® Power Core. Listen for any unusual sounds during operation. Ensure all parameters are correctly set while the system is running.	Every 6 months
Electrical connection checkup	Verify the cable connection for looseness or detachment. Inspect the cable for any damage, paying particular attention to the section in contact with the metal surface for signs of cuts. Ensure the unused DC input terminal and the waterproof cover of the charging base are securely closed.	First check after 6 months, then every 6-12 months hereafter
Grounding reliability checkup	Verify that the grounding cable is securely grounded.	First check after 6 months, then every 6-12 months hereafter

Certifications and standards

CE

Compliance	Decription
Safety compliance	IEC62109-1:2010, IEC62109-2:2011, EMC IEC61851-21-2:20218 , IEC61000-6-1, IEC61000-6-3
Battery compliance	IEC62619:2022, UN38.3, MSDS
Grid compliance	TRLV_TP_EN 50549_DK
System compliance	IEC61851-1:2017, IEC62955, IEC60529:2013, EN61984
Emissions compliance	RED 2014/53/EU

Support

Service level	Contact	Response time
Consultation	hello@emaldo.com	Mon-Thu 9 AM - 15 PM CET Fri 9 AM - 12 Noon and 13 PM - 15 PM CET
Technical support	help@emaldo.com	Mon-Thu 9 AM - 15 PM CET Fri 9 AM - 12 Noon and 13 PM - 15 PM CET
24/7 online help	emaldo.com/support	24/7/365
Limited warranty	emaldo.com	10 years (6.000 cycles)

Scan with the camera on your phone to get online help

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