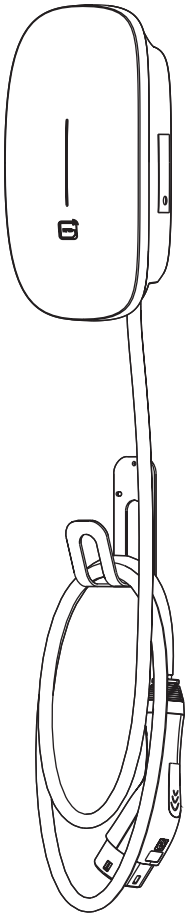
**Model: AC011K-AE-55C3-ENP** **27 014 65**

# MALMBERGS

# Evon One Plus WiFi/4G



**EN** NOTE! Please read through the manual carefully before using the appliance and keep it for future reference.

# EN WiFi Charging Station for Electric Vehicles

## Content

# 1 SAFETY AND WARNINGS

**Caution**

- Failure to follow instructions may result in danger.
- Children are prohibited from touching charging station.
- Do not disassemble the charging station while connected to the mains.
- Install a charging station away from pyrotechnics, dusty or corrosive places.
- Only use the charging station when it is operating normally and please strictly follow the instructions.
- Adaptors or conversion adapters are not allowed to be used.
- Cord extension sets are not allowed to be used
- The charging station produces high voltage output. You must pay attention to personal safety when using it.
- If malfunction happens, it may cause electric shock or even death. Under emergency situations – cut off the power supply.

**Maintenance/Installation**

- Maintenance/installation and service must be performed by a qualified electrician.
- The product is carefully packed in the factory. During transportation, strong impact and bumps should be avoided to prevent damage to the outer packaging of the product.
- The product should be installed in an environment with an ambient temperature of -30°C – +55°C and with a relative humidity of no more than 95%. The air should not contain acids, alkalis or other corrosive or explosive gases.

**Security Warning**

**Failure to follow instructions may result in danger!**

- Regularly check whether the charging station has visible damage. There may be an electric shock hazard when operating a broken charging station.
- If a ground fault occurs, it must be assumed that the cable carries voltage. Please confirm that there's no high-voltage power in the system before inspecting the charging.
- Persons who install and use charging stations must obey the principles and regulations mentioned to ensure the personal safety and equipment safety.
- Before powering on the device, please confirm that the device is properly grounded to avoid unnecessary accidents.
- Under any circumstances, do not open, modify or install the device yourself.
- To ensure the service life and stable operation of the charging station, the operating environment should be kept as clean as possible with a relatively stable temperature and humidity. The charging station must not be used in flammable environment or environments with volatile gas.
- Please confirm that the input voltage, frequency, circuit breakers and other conditions of the device meet the specifications before the device is powered on.

**The charger is equipped with an integrated residual current protection consisting of:**

- AC residual current detection 30mA, including pulsating DC residual current
- DC residual current detection 6mA

The DC detection complies with the requirements of IEC 62955:2018 for RDC-DD (Residual Direct Current Detecting Device) intended for Mode 3 charging of electric vehicles.
The protection concept corresponds to Type A protection with 6mA DC detection in accordance with the requirements for EV charging equipment in IEC 61851-1.
The integrated protection function means that an external upstream RCD is not required.
The installation shall however be protected by an upstream Miniature Circuit Breaker (MCB) rated 20A.

**Test of protection function:**

Disconnect the power supply to the charger via the circuit breaker and then restore it to initiate an automatic self-test of the residual current protection function. Or press the reset button twice consecutively within 2 seconds to trigger a restart. This function takes effect only after the button is fully released. The operation will be invalid if the duration of the first press exceeds 2 seconds. During the startup sequence, the charger will automatically perform a residual current self-test.

**Overhaul**

- The product warranty is valid for 5 years from the date of purchase. Please contact the dealer for complaints.
- Any direct damage or malfunction caused by neglect, incorrect use, installation, usage, repair by the users or natural damage are not covered by the warranty.

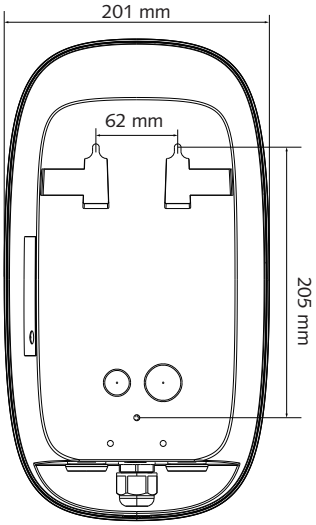
## 2 MOUNTING PARTS

Upon receipt of the product, please verify the accessories against the list below. If any items are missing, contact us immediately

| Item | Reference icon | Quantity |
|---|---|---|
| M4*32mm screw |  | 7 |
| Wall plug |  | 7 |
| Bootlace ferrule |  | 5 |
| M28 Cable grommet |  | 1 |
| Rubber plug |  | 1 |
| Cable clip |  | 1 |
| M3*12 screw |  | 2 |
| Cable holder |  | 1 |
| Quick guide |  | 1 |
| RFID card |  | 4 |
| M25 cable grommet |  | 1 |
| M20 cable grommet |  | 1 |
| Drilling template diagram |  | 1 |

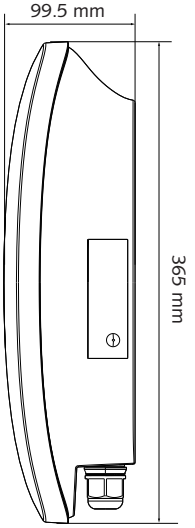
## 2.1 Product introduction

The AC EV Charger is a compact charging solution designed for residential use. It supports both wall-mounted and pole-mounted installation, delivering up to 11 kW charging power with a Type 2 connector, and providing safe, efficient, and user-friendly charging for most electric vehicles.



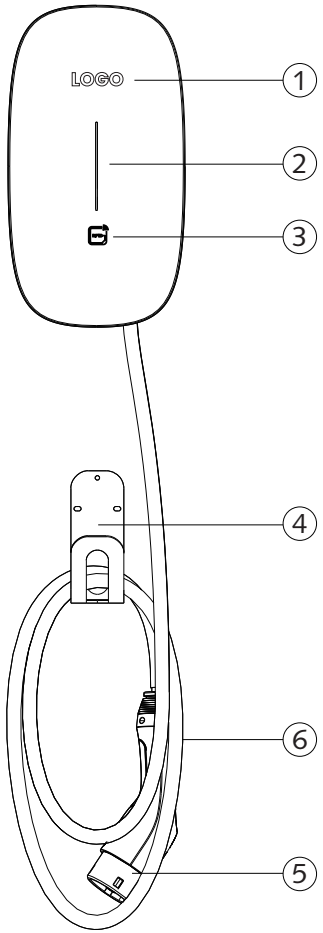

Key features include:

- **Smart connectivity:** Supports Wi-Fi, Bluetooth communication, with compatibility for OCPP 1.6.
- **Flexible operation:** Multiple start modes available, including Plug to Charge, RFID card, and App-based control.
- **Advanced safety protection:** Integrated overcurrent, residual current (AC/DC), surge, ground, and temperature protection, ensuring safe operation under all conditions.
- **Durable design:** Rated IP65 and IK10, providing excellent resistance against dust, water, and mechanical impact, suitable for both indoor and outdoor use.
- **User-friendly interface:** Equipped with an LED status indicator and RFID card reader, making charging sessions intuitive and straightforward.
- **Optional smart functions:** Load balancing and PV (solar) charging support, enabling optimized energy management.



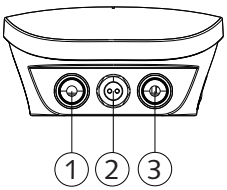
# 3 DESCRIPTION OF THE EV CHARGER

### 3.1 Front view



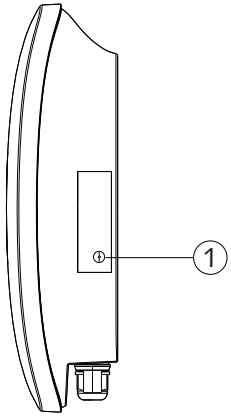

1. Logo
2. LED indicator
3. RFID card sensor
4. Cable holder
5. Charging connector
6. Charging cable

### 3.2 Bottom view




1. AC input cable entry
2. Communication cable entry
3. Charging cable entry

### 3.3 Side view

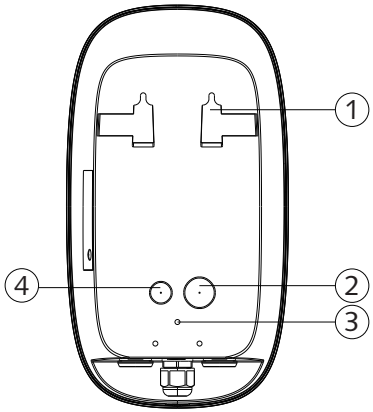



1. Reset button

**Note:**

- When the charger is powered on, press the reset button twice consecutively within 2 seconds to trigger a restart. This function takes effect only after the button is fully released. The operation will be invalid if the duration of the first press exceeds 2 seconds. During the startup sequence, the charger will automatically perform a residual current self-test.
- When the charger is powered on, press and hold the reset button for 5 seconds to reset the AP PIN code and Bluetooth password. The charger will not restart, and no changes will be observed on the indicator lights or display screen.

### 3.4 Back view




1. Mounting recess
2. Knock-out hole for AC input cable
3. Mounting hole
4. Knock-out hole for communication cable

## 4 SPECIFICATION

| | | |
|---|---|---|
| **Art. no** | 27 014 65 | |
| **Model** | AC011K-AE-55C3-ENP | |
| **Power Supply** | 3P+N+PE | |
| **Rated Voltage** | 400V AC | |
| **Rated Current** | 16 A | |
| **Frequency** | 50/60 Hz | |
| **Rated Power** | 11 kW | |
| **Power Measurement Accuracy** | 2% | |
| **Charge Connector** | Type 2 Cable | |
| **Enclosure** | PC943 | |
| **Size** | 365*201*99.5 mm(HxWxD) | |
| **Installation** | Wall-mount/Pole-mount(Optional) | |
| **LED Indicator** | Green/Yellow/Red | |
| **RFID Reader** | Mifare Classic ISO/IEC 14443-A | |
| **Start Mode** | Plug to Charge/RFID card/App | |
| **Wi-Fi** | IEEE 802.11 b/g/n 2.4GHz | |
| **4G** | Support (4G/Wi-Fi: exclusive per unit) | |
| **Bluetooth** | BLE 4.2 | |
| **OCPP** | OCPP 1.6 Json | |
| **Embedded Leakage Current Protection** | AC: 30 mA Type A<br>DC: 6 mA | |
| **Impact Protection** | IK10 | |
| **Enclosure Ingress Protection** | IP65 | |
| **Electrical Protection** | Over current protection, Residual current protection, Ground protection, Surge protection, Over/Under voltage protection, Over/Under frequency protection,Over temperature protection | |
| **Certification** | CE, RoHS, Reach | |
| **Certification Standard** | Safety | EN IEC 61851-1:2019 |
| | Health | EN IEC 62311:2020 |
| | EMC | EN 301489-1 V 2.2.3:2019<br>EN 301489-3 V2.3.2:2023<br>EN 301489-17 V 3.3.1:2024<br>EN IEC 61000-6-1:2019<br>EN IEC 61000-6-3:2021<br>EN IEC 61851-21-2:2021 |
| | Radio spectrum | EN 300328 V 2.2.2:2019<br>EN 300330 V 2.1.1:2017 |
| | RoHS | IEC 62321 Series |
| | Protection of network | 18031-1 |
| **Warranty** | 2 years | |
| **Operation Temperature** | -30°C - +50°C | |
| **Work Humidity** | 5%~95% | |
| **Work Altitude** | ≤2000m | |

# 5 PRE-INSTALLATION PREPARATION

### 5.1 Electrical preparation

- Use only copper conductors.
- Use copper wire that meets the specifications of local wiring regulations. The selected cable must be capable of withstanding continuous loads of up to 16A.
- The charger includes integrated residual current detection in accordance with IEC 62955:2018, therefore only an appropriately rated MCB is required externally.

### 5.2 Required materials

| Item | Specification |
|---|---|
| AC input cable | 2.5mm$^2$ |
| MCB | 4P MCB, 400/415 Vac, 20 A, Type C, compliant with IEC/EN 60898-1, with a minimum rated short-circuit breaking capacity (Icn) of 6 kA.<br><br>Note: Where the prospective short-circuit current (PSCC) at the point of installation exceeds 6 kA, an MCB with an appropriate higher rated short-circuit breaking capacity (e.g. 10 kA) shall be selected in accordance with applicable local electrical regulations. |
| RJ45 cable & connector | Cat 5e, connector (standard)<br>Note: Required only when wired communication is used. |

### 5.3 Required tools

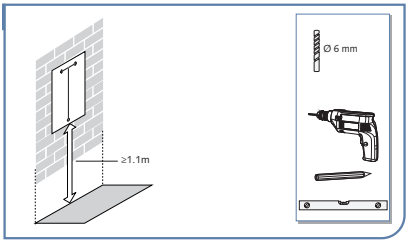
| Tools | Specification |
|---|---|
| Tape measure | 5 m |
| Marking tool | Pencil |
| Level | Standard |
| Philips screwdriver | PH2 |
| Hammer | Standard |
| Drill | Drill bit: Ø 6 mm |
| Wire stripper | 2.5 mm$^2$ |
| Crimping tool | 2.5 mm$^2$ |
| Digital multimeter | Standard |
| Voltage tester | Standard |

### 5.4 Confirm installation position

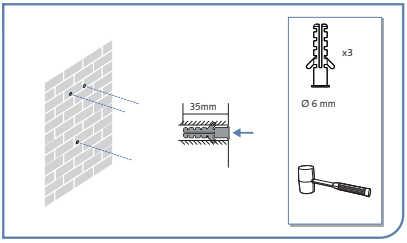
- Ensure that the parking position is within range of the charging cable.
- Ensure there is enough clearance for the charging cable to wrap around the wall charger box.
- Ensure that the charging handle can be comfortably inserted into the side of the wall charger.
- For outdoor installations, provide shelter from persistent rain.
- Install in a well ventilated space. Avoid installation and enclosed boxes close to high-power appliances and gas bottles.

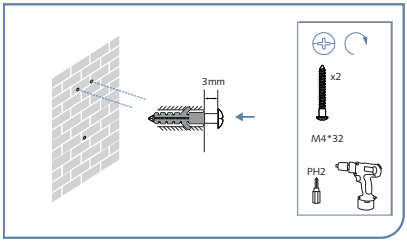
# 6 INSTALLATION

## 6.1 Drill holes

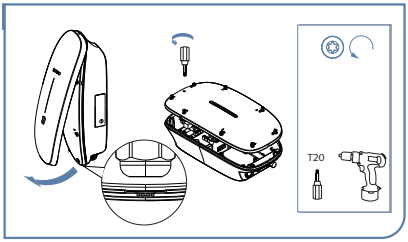



## 6.2 Insert wall plugs

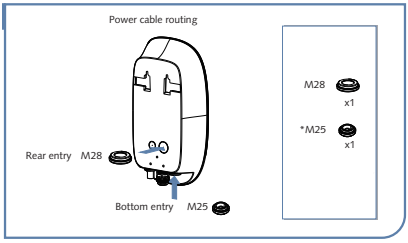


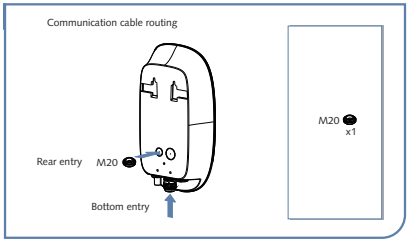




## 6.3 Detach the cover




## 6.4 Confirm the cable entry

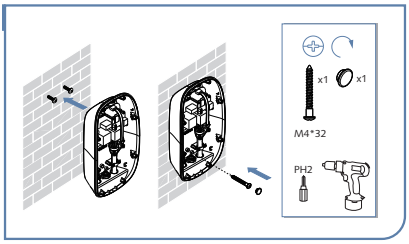



**WARNING!**

If rear entry is selected, install the M25 cable grommet to seal the unused bottom AC entry.

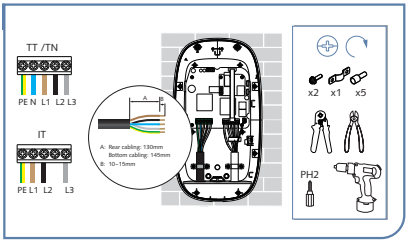
### 6.5 Secure the enclosure onto the wall




### 6.6 Connect the AC input power cable

**DANGER!**

Ensure that the power supply is cut off before connecting AC input wire.

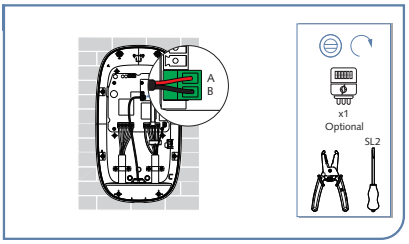



Thread the AC input cable into the cable inlet.

Strip wires to expose 10mm to 15mm of conductor and crimp them into bootlace ferrules.

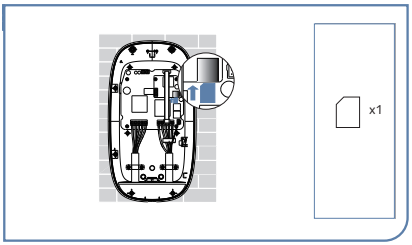
Insert the wires into the terminal block and tighten them, and then secure the cable with the cable clip using two M3*12mm screws.

### 6.7 Connect the RS485 cable



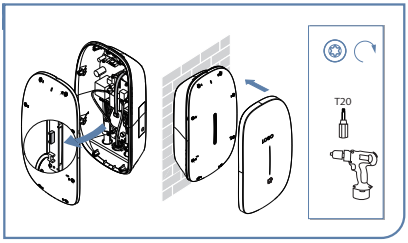

The CT and RS485 cables need to be connected only when configuring load balance.

### 6.8 Insert the SIM card (4G)

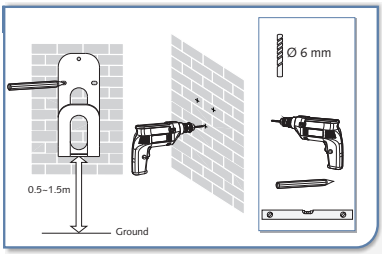


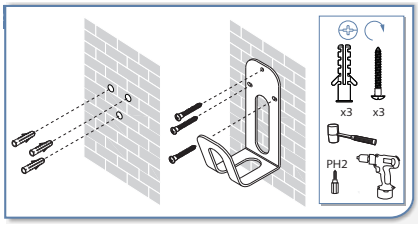

Insert the SIM card into the slot with the notched corner facing (toward) the lower left.

### 6.9 Reattach the cover




### 6.10 Install the cable holder



# 7 COMMISSIONING

The commissioning process differs depending on the scenario in which the charger is used:

- Residential scenario: Evchargo App
  If in residential scenario, you want to connect the charger to a third-party platform, and use a third-party App to charge EV, then AP mode will be used.

- Commercial scenario: AP mode
  You need to configure the charger in Evchargo platform.

## 7.1 Commissioning via App

1. Install the Evchargo App on a smartphone.
2. Create an account and log in.
3. Follow the instructions on the App to complete wizard settings and parameter settings.

App download

App User Guide

## 7.2 Commissioning via AP mode

When a third-party App is used, AP mode will be used to configure the charger network before the charger can be controlled by the third-party App.

For the detailed operation of AP mode, please scan the QR code below:

AP Mode Configuration Guide

# 8 CHARGER USAGE

### 9.1 Plug to Charge

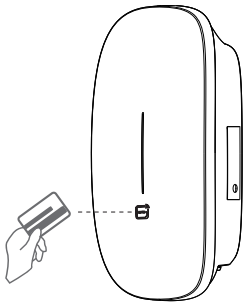
Factory default: APP-control via Ethernet or Wi-Fi.
Enable plug-and-charge in the Evchargo app, please refer to the the section in App user guide:
**- Switch from "Online Mode" to "Plug to Charge Mode"**

### 9.2 Control Charging via App

Please refer to the the section in App user guide:
**- How to Start a Charging Session at Home**

### 9.3 Charging by tapping card

- Plug in the charging connector, and the indicator flashes green quickly for five times.
- Tap card, and the indicator flashes yellow quickly for up to five times.
- During charging, the indicator gradually brightens, then gradually dims in green.
- Tap card and unplug the connector.



## 9 INDICATOR

| Indicator color | EV charger status | Indicator status |
|---|---|---|
| Green | Standby | Cycle: Slow flashing: on for 1s, then off for 3s. |
| | Charging initiated, awaiting vehicle response | Cycle: Rapid flashing twice (on for 200ms, then off for 1000ms), followed by a 3000ms off. |
| | Charging connector plugged in, ready for Charging | Cycle: Rapid flashing for 5 times (on for 200ms, then off for 1000ms), followed by a 3000ms off. |
| | Charging in progress | Cycle: gradually brightens, then gradually dims, on for 1s, off for 1s. |
| | Charging completed | Steady green. |
| Yellow | No Network/Not Connected to Server | Cycle: The green light is on for 1s, followed by the yellow light on for 1s, then off for 3s. |
| | Bluetooth lock | Cycle: Flashing: on for 4s, then off for 1s. |
| | Scheduled charging in Bluetooth mode | Cycle: Rapid flashing: on for 2s, then off for 2s. |
| | Insufficient Power Allocated, Pausing Charging | Cycle: Rapid flashing for 5 times (on for 200ms, then off for 1000ms), followed by a 3000ms off. |
| | Card Identified Successfully | Cycle: Rapid flashing: The indicator light is on for 100ms, then off for 100ms, with a maximum of 5 repetitions. |
| | Charger Reserved (Occupied) | Rapid flashing: on for 2s, then off for 2s |
| | Alarm | Steady yellow. |
| White | Program is upgrading | Cycle: Rapid flashing: on for 200ms, then off for 1000ms, this pattern repeats five times, followed by a 3000ms off. |
| | Power-On Self-Test | Cycle: Breathing light: Gradually brightens, then gradually dims, on for 1s, off for 1s. |

## 10 TROUBLESHOOTING

| Indicator color | EV charger status | Indicator status | Solution |
|---|---|---|---|
| **Red** | Relay adhesion | Steady red | Please contact after-sales |
| | Leakage current fault | Cycle: on for 500ms, then off for 500ms once, followed by 3s off. | |
| | CP fault | Cycle: on for 500ms, then off for 500ms, twice; followed by 3s off. | |
| | Overcurrent fault | Cycle: on for 500ms, then off for 500ms, 3 times; followed by 3s off. | |
| | Reverse polarity fault | Cycle: on for 500ms, then off for 500ms, 4 times; followed by 3s off. | |
| | Leakage current loop anomaly (self-check) | Cycle: on for 500ms, then off for 500ms, 5 times; followed by 3s off. | |
| | Input terminal overheat fault | Cycle: on for 500ms, then off for 500ms, 6 times; followed by 3s off. | |
| | Relay Overheat | Cycle: on for 500ms, then off for 500ms, 7 times; followed by 3s off. | |
| | Output voltage fault | Cycle: on for 500ms, then off for 500ms, 9 times; followed by 3s off. | |
| **Red + Yellow** | Undervoltage fault | Cycle: yellow on for 2s, followed by the red flashing once (on for 500ms, off for 500ms), then 3s off. | Please try again 10 minutes later |
| | Overvoltage fault | | |
| | Overfrequency fault | Cycle: yellow on for 2s, followed by the red flashing twice (on for 500ms, off for 500ms), then 3s off. | |
| | Underfrequency fault | | |
| | Smart meter communication failure | Yellow on for 2s, followed by the red flashing 4 times (on for 500ms, off for 500ms), then 3s off. | Please contact after-sales |
| | Current transformer (CT) anomaly | Yellow on for 2s, followed by the red flashing 5 times (on for 500ms, off for 500ms), then 3s off. | |
| **Red + Yellow** | Charging connector lock anomaly | Yellow on for 2s, followed by the red flashing 6 times (on for 500ms, off for 500ms), then 3s off. | Please contact after-sales |
| | Charging connector current anomaly | Yellow on for 2s, followed by the red flashing 7 times (on for 500ms, off for 500ms), then 3s off. | |
| **White** | BOOT security verification failed or security chip is malfunctioning | Cycle: Flashing white twice (on for 200ms, then off for 1000ms), followed by 5000ms off. | |
| | The charger in a disabled state | Steady white | |

## 11 ROUTINE MAINTENANCE

To prevent many of the faults listed above, it is recommended to perform basic maintenance every six months:

- Visual Inspection: Check the enclosure and cables for physical damage or wear.
- Cleaning: Use a dry cloth to clean the surface of the charger.

**WARNING!**

Do not use corrosive cleaners, glass cleaners, or organic solvents.

## 12 STORAGE & TRANSPORTATION

- Chargers should be transported in the original packages. Do not place other objects on the top of the charger.
- Before transportation, store the product in a clean, dry, and well ventilated place with a relative humidity of not more than 80% and free from corrosive gases.
- The environmental specifications for storage and transportation shall not go beyond those specified in the Technical Specifications.

## 13 DISASSEMBLY

- Only authorized and qualified electricians are allowed to disassemble the product.
- Power off the charger before disassembling it.
- Disassemble a charger in the reverse order of installation.

## 14 RECYCLING & DISPOSAL

This product should not be disposed of with general household waste. It contains electronic components and metals that may be harmful to the environment.

Please follow these steps:

- Contact your local municipality or recycling center for EV charger disposal instructions.
- Remove the device by a certified professional before recycling.
- Do not burn, crush, or disassemble the charger.

MALMBERGS

# EU Declaration of Conformity

| | |
|---|---|
| **Manufacturer name:** | Malmbergs Elektriska AB (publ) |
| **Manufacturer address:** | PO Box 144, SE-692 23, Kumla, SWEDEN |
| **Product name:** | Evon one plus |
| **Product number:** | 27 014 65<br>AC011K-AE-55C3-ENP |

This declaration of conformity is issued under the sole responsibility of the manufacturer.
The product above is in conformity with the provisions of the following directives/standards:

| **RED 2014/53/EU** | **Standards** |
|---|---|
| 3.1(a) | EN IEC 61851-1:2019<br>EN IEC 62311:2020 |
| 3.1(b) | EN 301489-1 V2.2.3:2019<br>EN 301489-3 V2.3.2:2023<br>EN 301489-17 V3.3.1:2024<br>EN 301 489-52 V1.1.2:2020<br>EN IEC 61000-6-1:2019<br>EN IEC 61000-6-3:2021<br>EN IEC 61851-21-2:2021 |
| 3.2 | EN 300328 V2.2.2:2019<br>EN 300330 V2.1.1:2017<br>EN 301908-1 V15.0.1:2021<br>EN 301908-13 V13.1.1:2019 |
| 3.3(d) | EN 18031-1:2024 |
| **RoHS 2011/65/EU** | **Harmonized Standards** |
| | EN IEC 63000:2018 |

**Additional Information**
The product includes integrated residual current detection in accordance with IEC 62955:2018.

**For and on behalf of:**

Anders Folke

Malmbergs Elektriska AB, Sweden.
Mr. Anders Folke / Product Manager
Date: 21/08/2026

# PIN CODE

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