



Kempower Movable Charger

OWNER'S MANUAL

© Copyright Kempower Oyj 2023

All rights reserved. Subject to change without notice. No parts of this work may be reproduced in any form or by any means – graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems – without prior written permission of the copyright holder. Kempower may have one or more patents or pending applications that protect the intellectual property rights mentioned in this information. Products that are referred to in this information may be either trademarks and/or registered trademarks of the respective owners. The publisher and the author make no claim to these trademarks. While every precaution has been taken in the preparation of this information, the publisher and the author assume no responsibility for errors or omissions, or for damages resulting from the use of this information or from the use of programs and source code that may accompany it. In no event shall the publisher and the author be liable for any loss of profit or any other commercial damage caused or alleged to have been caused directly or indirectly by these instructions. The original language of this information is English. Other language versions are translations from English. In case of a discrepancy, the English original will prevail. Kempower does not assume responsibility for errors in translation.



CONTENTS

1 INTRODUCTION	1
1.1 Disclaimer on products and services	1
1.2 Information about the warranty.....	1
1.3 Information about the manufacturer	2
1.4 Recycling.....	2
2 SAFETY	3
2.1 Symbols used in the instructions	3
2.2 Common risks	3
2.3 Defective or damaged equipment	5
2.4 Fire safety	5
2.5 Environment	5
3 OVERVIEW OF THE CHARGING UNIT	6
3.1 Identificators.....	6
3.2 Device	6
3.3 Vehicle connector types.....	8
4 PACKAGING OF THE CHARGING EQUIPMENT	8
5 STORING THE CHARGING EQUIPMENT	9
6 UNPACKING THE CHARGING UNIT.....	9
7 LIFTING THE CHARGING UNIT	9
8 TAKING INTO USE	10
8.1 Fixed installation (optional).....	11
9 STANDBY MODE AND TURNING THE CHARGING UNIT OFF	12
10 USING THE CHARGING UNIT	13
11 PREVENTIVE MAINTENANCE	15
12 TROUBLESHOOTING	17
13 DECLARATION OF CONFORMITY	18
14 CHANGE LOG	19

1 INTRODUCTION

1.1 Disclaimer on products and services

Kempower's Movable Charger delivery typically consists of one or more charging units with connectivity tools. Charging hardware and software, together with the power grid, data communication network, multiple electric vehicles (EV) and users, form a complex entity.

Kempower is not liable for incidental or consequential damages arising from the use of any software or hardware.

Kempower reserves the right to change the specification of the product described at any time without prior notice.

Kempower constantly develops the software in terms of vehicle support, new features, and improvement of user interface experience. Kempower offers software updates upon request or periodically as part of a service contract.

1.2 Information about the warranty



When you replace parts under warranty, keep the faulty part until you have made sure that Kempower does not need to inspect it.



You must complete the Kempower certification training before you do installation, commissioning, service or maintenance tasks. Installation, commissioning, service or maintenance tasks done by an unapproved partner will void the warranty.

The warranty period is defined in your warranty policy. If you have purchased extended warranty, the warranty period is defined in your purchase agreement. For detailed information about the terms and conditions, see your warranty policy or purchase agreement. You can view the general warranty terms at kempower.com/kempower-terms-and-conditions.

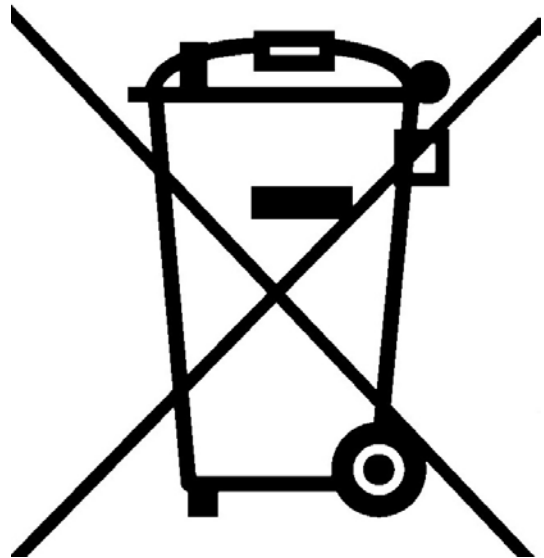
The warranty only covers the product and its parts delivered by Kempower. The warranty does not cover consumable parts such as cables and connectors, any other materials, labor, accommodation, or travel costs.

1.3 Information about the manufacturer

Manufacturer	Kempower Oyj
Address	Ala-Okeroistentie 29 15700 Lahti, Finland
Phone	+358 29 0021900
Contact	kempower.com/support
Website	kempower.com

1.4 Recycling

- The product labeled with this symbol is in compliance with the **WEEE – 2012/19/EU Directive on waste electrical and electronic equipment**.
- Under no circumstances dispose of this product or its parts as part of household waste.
- Know and obey your local legislation. Bring the product or its parts to your public electronic waste collection point or to the seller of the product for recycling.
- Dispose of the product packaging according to the symbols on the packaging.
- When you make sure that the product is correctly reused and recycled, you protect the environment.
- The product is 99.61% recyclable.



2 SAFETY

2.1 Symbols used in the instructions

**DANGER**

Indicates a hazardous situation which, if not avoided, will cause death or serious injury.

**WARNING**

Indicates a potentially hazardous situation which, if not avoided, may cause death or serious injury.

**CAUTION**

Indicates a potentially hazardous situation which, if not avoided, may cause moderate or minor injury.



Indicates a situation which, if not avoided, may cause property damage or an undesirable result or state.



Indicates advice and recommendations for the safe and efficient use of the product or highlights unusual points.

2.2 Common risks

**WARNING**

You must complete the Kempower certification training before you do service or maintenance tasks.

**WARNING**

The charging unit is in standby mode but still connected to the main power supply when the equipment stop switch is in OFF position. Disconnect the charging unit from the main power supply when energy isolation is necessary.

**WARNING**

Turn the charging unit's equipment stop switch to OFF position and disconnect the main power supply if there is a risk of electrical shock because of damaged cables, or if there is other imminent danger to the operator.

**WARNING**

Only connect the charging unit to an earthed electric network.

**WARNING**

Do not use the charging unit if the unit, its cables or vehicle connectors are damaged. Risk of electrical shock or fire.

**CAUTION**

The charging unit is intended for electric vehicles that do not require ventilation during charging.

**CAUTION**

The charging unit has no user serviceable internal parts. If you are not a qualified service partner, do not open or remove any panels. Risk of electrical shock.

**CAUTION**

Do not use running water or pressure washing equipment to clean the charging unit. Use a pH neutral detergent if necessary.



Changes or modifications to the charging equipment, unless specifically agreed upon with Kempower, are prohibited and will void the warranty.



Only use spare parts approved by Kempower.



Do not repeatedly transport the charging unit in a vehicle. Risk of damage to the charging unit.



The environment of the charging unit must conform with its IP classification. Do not expose the charging unit to high temperatures. Risk of damage to the charging unit.



Do not turn off the charging unit or disconnect its power supply during charging. Risk of damage to the vehicle being charged.



Keep the charging unit's equipment stop switch in ON position. Only turn the equipment stop switch to OFF position if the charging unit malfunctions, if the charging session does not start after several attempts, or if there is another unrecognized error. To reset the charging unit, disconnect its power supply.



Do not use the top handles to lift the charging unit off the ground. The top handles are for moving the charging unit on its wheels.



Be careful when you move the charging unit. Its center of gravity is high and it weighs 120–135 kg depending on the configuration.



During charging do not wrap the cables around the charging unit. Straighten tight loops in the cables.



Do not put the vehicle connector on the ground. Put the connector in its holder after charging.



The vehicle connector pins do not have voltage when the device is not charging.

2.3 Defective or damaged equipment



WARNING

Do not use the charging unit if the unit, its cables or vehicle connectors are damaged. Risk of electrical shock or fire.

If you find that a charging unit is visibly damaged:

- Do not connect the vehicle connector to your vehicle or start a new charging session.
- Stop any ongoing charging sessions immediately and remove the vehicle connector from your vehicle.
- Contact your local service or maintenance provider.

2.4 Fire safety



WARNING

Do not use the charging unit if the unit, its cables or vehicle connectors are damaged. Risk of electrical shock or fire.

If there is a fire:

- If possible, stop the charging session, remove the vehicle connector from the vehicle, and move the vehicle away from the charging equipment.
- Only use fire extinguishers suitable for electric equipment (CO₂ fire extinguishers).
- Alert the local authorities and obey their instructions.
- After extinguishing the fire, always contact Kempower before you start any maintenance work. Kempower will perform a critical failure analysis before maintenance work can be done.

2.5 Environment



See the product datasheets for specifications. Product datasheets are available at mediabank.kempower.com.

- The environment of the charging unit must conform with its IP classification.
- The charging unit must not be exposed to high temperatures. Risk of damage to the charging unit.
- The airflow to and from the charging unit must be unrestricted.
- The preventive maintenance intervals depend on the environmental conditions. For additional information, see *11 Preventive maintenance*.

3 OVERVIEW OF THE CHARGING UNIT

3.1 Identifiers

Serial number

The serial number of the unit is given on the rating plate. The correct serial number is important when you order spare parts or repair the unit.

Quick response (QR) code or barcode

The serial number and other information about the unit can also be given as a QR code or barcode on the unit's rating plate. Use a mobile phone with a QR application or a code reader to access the information.

Rating plate

Information about the unit is marked on the rating plate. If the unit is upgraded, Kempower adds a retrofit sticker to the unit. The location of the rating plate on the units:

- **Movable Charger:** On the rear side of the unit, on the cable support.

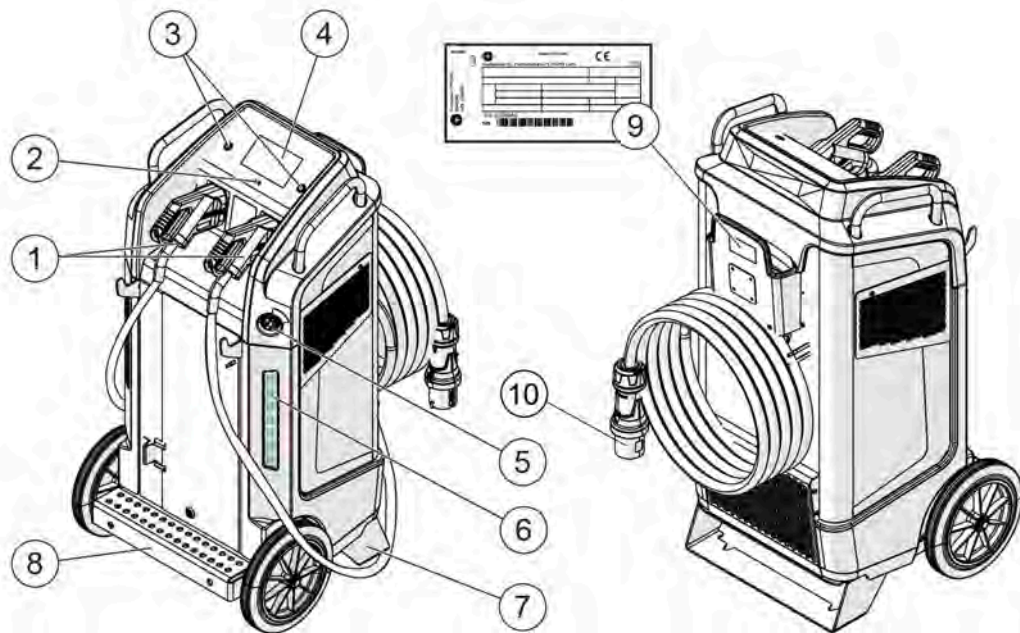
3.2 Device

The Movable Charger is a transportable, stand-alone fast charging solution for all types of electric vehicles. The modular design with replacable power modules and connectors lets you customize the Movable Charger to your charging needs.

Features:

- Wheels for easy mobility
- Front support can be used for fixed installation
- Available charging protocols CCS2 or CCS1, CHAdeMO
- 7" touch screen with on-screen user guidance
- User authentication via radio-frequency identification (RFID)
- Internet cloud connection via built-in Wi-Fi and mobile data (3G/4G) connection
- Charging status indication LEDs

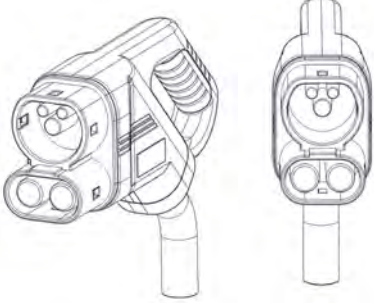
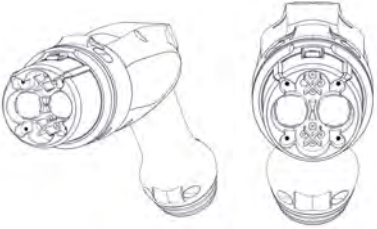
Figure 1. Movable Charger overview



- | | | | |
|---|---|----|---------------------------------|
| 1 | Vehicle connectors* | 6 | Charging status indication LEDs |
| 2 | RFID reader (RFID = Radio Frequency Identification) | 7 | Rear support |
| 3 | Function buttons | 8 | Front support |
| 4 | Display screen | 9 | Rating plate |
| 5 | Equipment stop switch ON/OFF | 10 | AC plug |

* AC socket available as an option

3.3 Vehicle connector types

	<p>Combined Charging System (CCS2)</p>
	<p>CHAdeMO</p>

4 PACKAGING OF THE CHARGING EQUIPMENT




Do not stack the product packages during shipping.

Product	Image	Shipping
<p>Movable Charger</p>		<ul style="list-style-type: none"> • Size: 120 x 80 x 141 cm • Weight: 190 kg

5 STORING THE CHARGING EQUIPMENT

Product	Instructions	Temperature
Movable Charger	<ul style="list-style-type: none"> • Store in a clean and dry indoor area • Do not stack • Store the unit upright. For details, see the sticker on the packaging. 	-40...+60 °C


6 UNPACKING THE CHARGING UNIT


 Two people are needed for this task.

Unpack and inspect the delivery. If the equipment is damaged, do not start installation. For assistance, contact [*Kempower Technical Support*](#).

If possible, keep the packaging for future use. For example for transporting the Movable Charger from one site to another.

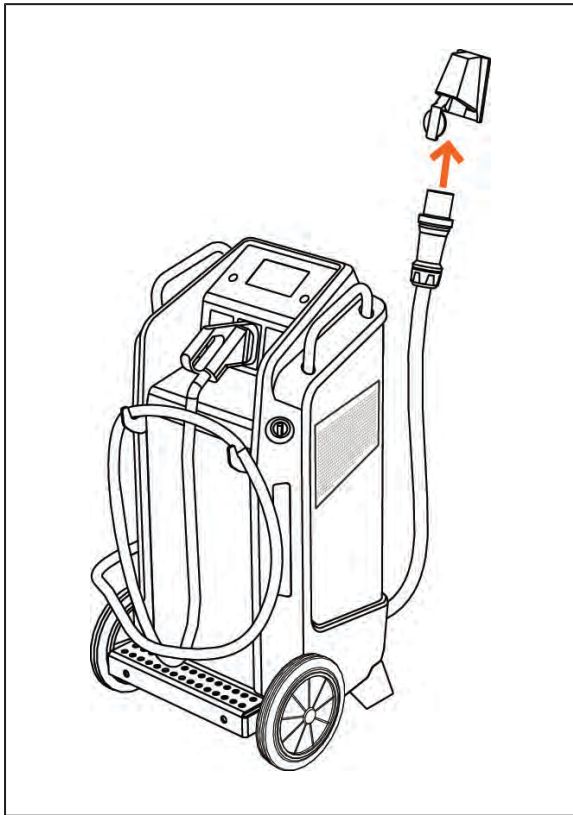
7 LIFTING THE CHARGING UNIT


 Do not use the top handles to lift the charging unit off the ground. The top handles are for moving the charging unit on its wheels.

 Be careful when you move the charging unit. Its center of gravity is high and it weighs 120–135 kg depending on the configuration.

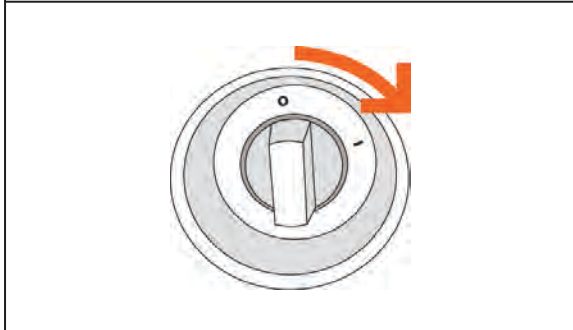
We recommend that the Movable Charger is packed and on a pallet when you transport it. For instructions, contact [*Kempower Technical Support*](#).

8 TAKING INTO USE




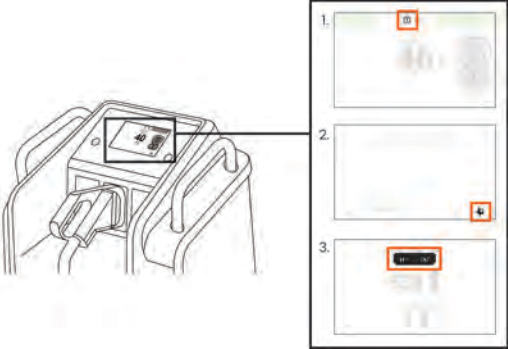



WARNING
 Only connect the charging unit to an earthed electric network.

Connect the Movable Charger to the main power supply.



Turn the equipment stop switch to ON position. Wait until the charging unit is ready for use. This may take a few seconds. The status is indicated on the display.

	<p>The Movable Charger automatically connects to the mobile data network using the built-in 3G/4G/Wi-Fi function.</p> <ul style="list-style-type: none">  The wireless mobile data network and the internet connectivity depend on your local service provider's network and its settings.  For specifications, see the product datasheets. Product datasheets are available at mediabank.kempower.com.
	<p>When the charging unit is ready to use, select the input current (32 A or 63 A) according to your main power supply. Push the info button on the touch screen and select the correct input current.</p> <ul style="list-style-type: none">  The feature for selecting the input current must first be activated, for example from the ChargeEye backend system. For more information, contact Kempower Technical Support.

8.1 Fixed installation (optional)

You can install the Movable Charger in place. Remove the wheels and fasten the unit to a mounting pad or other applicable surface. For installation instructions, see the maintenance manual.

9 STANDBY MODE AND TURNING THE CHARGING UNIT OFF

WARNING



The charging unit is in standby mode but still connected to the main power supply when the equipment stop switch is in OFF position. Disconnect the charging unit from the main power supply when energy isolation is necessary.



Keep the charging unit's equipment stop switch in ON position. Only turn the equipment stop switch to OFF position if the charging unit malfunctions, if the charging session does not start after several attempts, or if there is another unrecognized error. To reset the charging unit, disconnect its power supply.

Turn the charging equipment off if:

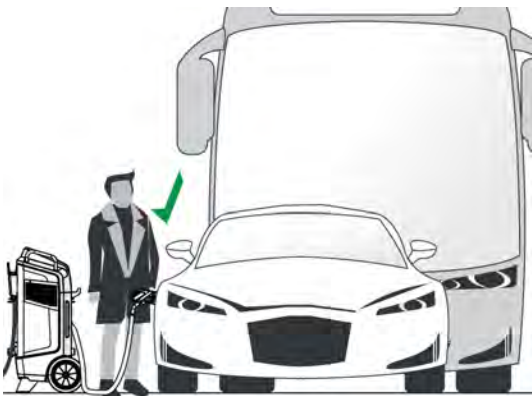
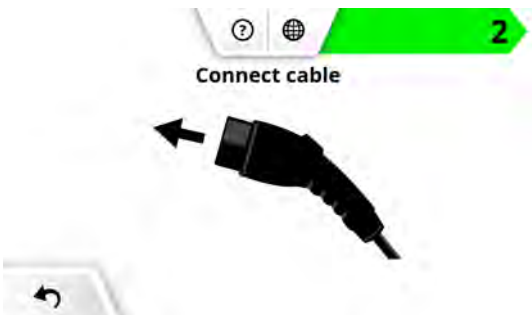
- It causes an immediate safety risk.
- Kempower or your local service or maintenance provider instructs you to do so.
- Maintenance tasks require you to do so. For maintenance instructions, see the maintenance manual.



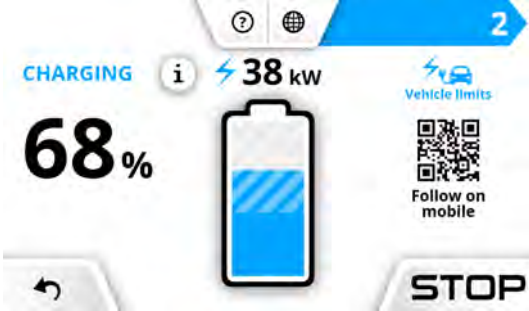


<p>The diagram shows a side view of the Movable Charger. A power supply cable is being disconnected from the top of the unit. An inset shows a close-up of the equipment stop switch, which is a rotary knob. An orange arrow points to the 'OFF' position of the switch.</p>	<p>Do not end the charging session by turning the charging unit's equipment stop switch to OFF. For instructions on ending a charging session, see 10 Using the charging unit.</p> <p>To put the Movable Charger in standby mode, turn the equipment stop switch to OFF position. The charging unit is still connected to the ChargeEye backend system and can receive software updates.</p> <p>To turn the Movable Charger off, disconnect the power supply cable from the main power supply.</p>
---	--

10 USING THE CHARGING UNIT

Before you use the Movable Charger, you must complete the initial setup. See [8 Taking into use](#).

Make sure that the device's equipment stop switch is in ON position. Follow the device's on-screen instructions.

	<p>Make sure that you have read and understood the instructions of the vehicle to be charged.</p> <p>The charging process starts when the vehicle connector is correctly connected to the vehicle and, if in use, when identification is done.</p>
	<p>Follow the on-screen instructions of the charging unit.</p> <p>Select the correct type of vehicle connector. See 3.3 Vehicle connector types.</p> <p>Attach the vehicle connector to the vehicle. Make sure that the vehicle connector is correctly connected. Listen for the vehicle's lock-in sound.</p>

	<p>If identification is necessary, the charging unit asks for it when the vehicle connector is connected to the vehicle.</p> <p>Use the identification method suggested by the charging unit.</p> <p>The charging unit can use for example radio-frequency identification (RFID) for the identification.</p>
	<p>Communication between the charging unit and the vehicle starts. Follow the progress on the display screen.</p>
	<p>When charging starts, the charging status is shown on the display screen.</p> <p>To see the charging process remotely, scan the quick response (QR) code with your mobile phone. A secure web page opens on your mobile phone and shows the charging status screen.</p>
	<p>Press Stop (1) on the display screen to end the charging session.</p> <p> Do not end the charging session by turning the charging unit's equipment stop switch to OFF. Keep the switch in the ON position.</p>

	Remove the vehicle connector from your vehicle and put it back in the vehicle connector holder.
--	---

11 PREVENTIVE MAINTENANCE



WARNING

You must complete the Kempower certification training before you do service or maintenance tasks.



CAUTION

Do not use running water or pressure washing equipment to clean the charging unit. Use a pH neutral detergent if necessary.



Obey the preventive maintenance plan to ensure the optimal performance of the electric vehicle charging system. Failure to obey the preventive maintenance plan and report the completed tasks to ChargeEye is cause to void the warranty.



The preventive maintenance schedule for cleaning and replacing components and consumable parts gives the indicative minimum intervals. Monitor the condition of the electric vehicle charging system and its wearing parts regularly. Adjust the intervals as necessary.

For maintenance instructions, see the maintenance manual.

To find your local service or maintenance partner, contact [Kempower Technical Support](#).

Periodic maintenance

	Annually	As necessary
Charging unit maintenance	•	
Charging cable and vehicle connector maintenance		•

The maintenance interval always depends on environmental and site-specific conditions.


- Charging unit maintenance:
 - Do annually, more often in demanding conditions. Maintenance tasks include a visual inspection and cleaning.
- Charging cable and vehicle connector maintenance:
 - Replace if any damage is found. Inspect regularly.

General maintenance

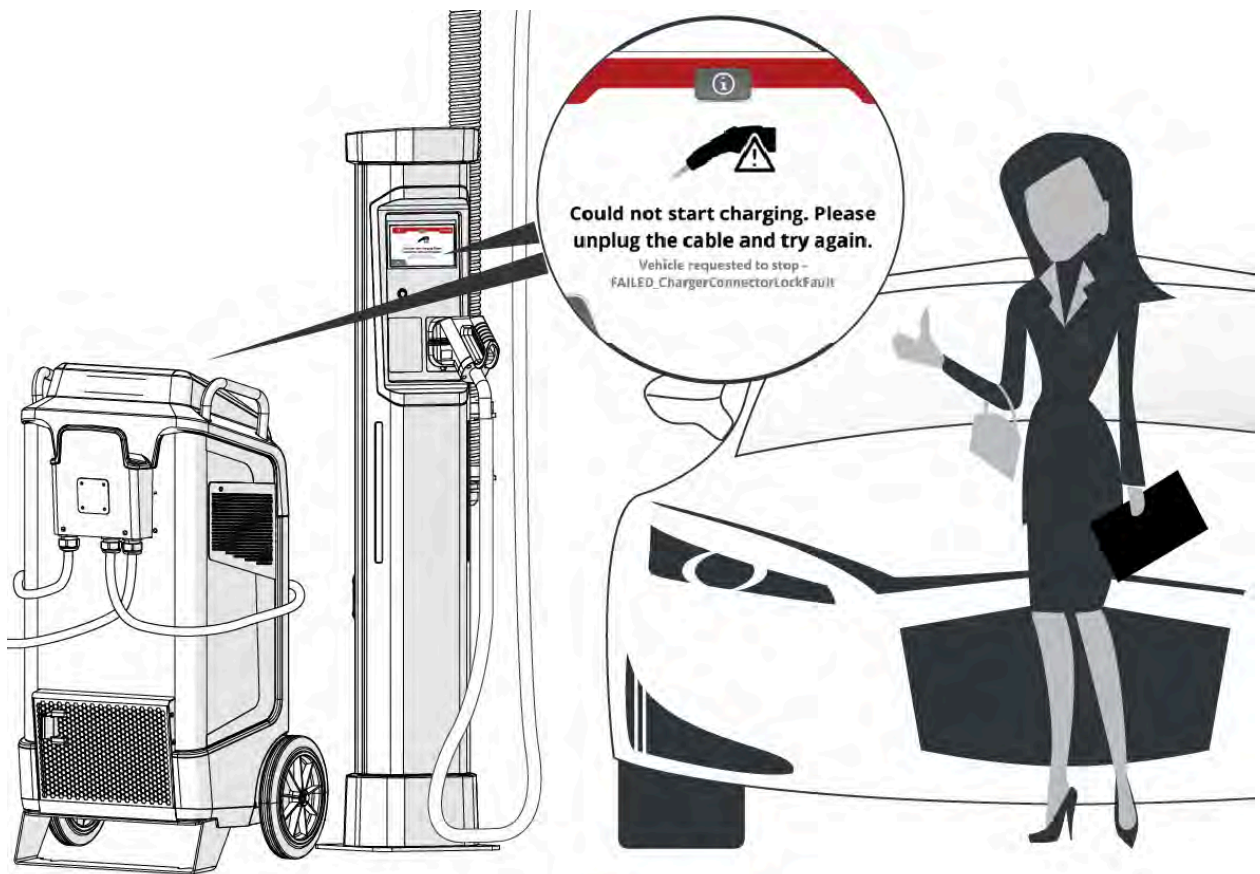
- Visually inspect the charging unit from all sides regularly. Make sure that:
 - There are no dents or other damage
 - The charging cable is not damaged
 - The user interface is not damaged
- Clean the outside of the charging unit regularly. Use a damp cloth and pH neutral detergent.
- Update the charging unit software as needed. Software updates are performed remotely by approved service or maintenance partners or Kempower upon request. You can also update the software directly from ChargEye.

If you find any damage, do not use the charging unit. Contact *Kempower Technical Support* or your local approved service partner.

12 TROUBLESHOOTING

 You can also see the error codes in the ChargeEye system.

Instructions for problem situations are given on the device's display. The error codes help your service or maintenance partner to fix the problem. For assistance, contact *Kempower Technical Support*.



EU Declaration of Conformity

We, Kempower Oyj (business ID: 2856868-5, address: Ala-Okerointentie 29, 15700 Lahti, Finland), declare under our sole responsibility that the product detailed below, to which this declaration relates, complies with the directives and norms listed below:

Product name:

Kempower Movable Charger

Product n:o:

T50X PXXX XXXX XX

T80X PXXX XXXX XXX

here X can be any number or letter.

Provided that they are used for the purpose intended, and used, installed, and maintained in accordance with professional practices, applicable installation standards and the manufacturer's instructions for use and installation, the above-mentioned products comply with the following directives and standards.

Directives: Radio Equipment Directive (RED): 2014/53/EU
Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS): 2011/65/EU
Low Voltage Directive (LVD): 2014/35/EU
Electromagnetic Compatibility Directive (EMC): 2014/30/EU

Standards: Emission, Immunity: IEC 61851-21-2:2018, class A
Charging cable: IEC 62196-1, -2, -3
Electric vehicle conductive charging system:
- General requirements: IEC 61851-1 :2017
- DC electric vehicle charging station: IEC 61851-23:2014

Lahti, March 10, 2023



Tomi Ristimäki
Chief Executive Officer
Kempower Oyj



14 CHANGE LOG

Kempower Movable Charger Owner's Manual v. 2.10 05-2023	Changes
<u>2 Safety</u>	Added information about defective or damaged equipment. Added information about fire safety.
<u>4 Packaging of the charging equipment</u>	Added information about shipping packaging.
<u>5 Storing the charging equipment</u>	Added information about storing the charging unit.
<u>8 Taking into use</u>	Updated images.
<u>9 Standby mode and turning the charging unit off</u>	Updated image. Added note about not using equipment stop button to end a charging session.
<u>10 Using the charging unit</u>	Added instructions for ending the charging session.
<u>11 Preventive maintenance</u>	Updated preventive maintenance section.
<u>13 Declaration of Conformity</u>	Updated the Declaration of Conformity.



Kempower • Ala-Okeroistentie 29, 15700 Lahti, Finland