Auto Enterprise

Instruction manual

DC Travel Charger

Autoenterprise cannot be held liable for any direct or indirect damages resulting from the use or operation of the electrical circuits of the equipment or software described herein. The appliance should only be used by trained and qualified personnel. Read the instructions carefully before using the product. In addition, Autoenterprise reserves the right to change any product described here without prior notice.

TABLE OF CONTENTS

1. INTRODUCTION

I-STATION – is a high quality charging station (hereinafter referred to as «the complex»), which is made using the latest solutions in the field of power electronics and technology, based on the modern components combined with the microcontroller signal processing technology, which ensures high efficiency, functionality and reliability of the charger.

This, together with the software and accessible interfaces, provides a **flexible** and **productive** solution for electric vehicle charging that meets the highest quality standards.

The product is designed to control and convert the energy consumed from a three-phase AC 220/380V to DC voltage and to control the AC voltage for charging an electric vehicle battery.

The product is equipped with an intelligent microcontroller control system and communication devices that allow for the exchange of information with the electric vehicle and set the value of the charge current and voltage, according to the needs of the electric vehicle in real time.

2. KEY INFORMATION

2.1 INFORMATION ABOUT THE MANUAL

This manual describes how to operate the charger properly and safely. Be sure to follow the safety instructions given here, as well as any local safety regulations and general safety instructions.

Before you put the charger into use, make sure that the instructions, the «Safety» paragraph in particular, have been read through and understood completely. This manual is an integral part of the station and and should therefore be kept in its immediate vicinity.

2.2 WARNING SYMBOLS

Important safety instructions in this manual are marked with symbols. These safety instructions must be strictly adhered to. Always pay attention to them and follow the safety instructions to avoid accidents, personal injury or material damage.

WARNING!

Risk of injury or death

This symbol indicates instructions that must be followed to avoid injury, trauma or death.

WARNING!

Risk of material damage

This symbol indicates instructions which, if not followed, may result in material damage, functional faults and/or machine breakdowns.

WARNING!

Danger - electrical current

This symbol alerts you to potentially dangerous situations involving electric current. Failure to follow the safety instructions increases the risk of serious injury or death. Caution should be exercised, especially during maintenance and repairs.

ATTENTION!

This symbol indicates tips and information that should be adhered to in order to ensure efficient and reliable operation of the product.

2.3 LIABILITY AND WARRANTY

All information, illustrations, sheets, specifications and diagrams contained in these operating instructions have been carefully compiled to the current state of the art at the time of publication. We are not liable for errors, missing information or any subsequent damages or consequential damages.

Strict adherence to the safety procedures described in these operating instructions and special care when using the equipment are essential to prevent and reduce the likelihood of injury or damage to the equipment. The manufacturer is not responsible for damage and/or malfunctions caused by non-compliance with the instructions in this manual.

Additionally, the manufacturer will not be liable for any personal injury or material damage, whether indirect or special, consequential, loss of business profits, business interruption or loss of business information resulting from the use of the equipment described in this manual.

Any software included in this equipment must only be used for the purposes for which it has been provided to the User by the Autoenterprise for which it is strictly prohibited to make any changes, conversions or copies (except for any necessary backups).

AutoEnterprise reserves the right to update any information, illustrations, sheets, specifications and diagrams contained in these operating instructions at any time without prior notice.

2.4 DISPOSAL INFORMATION

Do not dispose of the charging complex together with household waste!

Electronic devices must be disposed of in accordance with the local directives for the disposal of electronic and electrical waste. If you have any further questions, please contact your supplier.

Use suitable tools if you need to disassemble the system. All individual parts must be sorted by different types of material and disposed of in accordance with the regional guidelines for the disposal of electronic and electrical waste.

2.5 MANUFACTURER'S LABEL

The marking on the charging complex is located on the GSM modem inside the complex on the side of the control panel (side 1) and consists of alphabetic and digital symbols (example: M123456).

This information is important for setting up, troubleshooting and ordering spare parts for the station.

3. APPLICATION AREA, STATION SPECIFICATIONS

3.1 STATION SPECIFICATIONS

Charging mode under IEC61851-1	CHAdeMO / CCS Combo 1 / CCS Combo 2 negotiated when ordering.
Nominal input voltage	From 50 to 500 V; 1 DC-module: 50 A. 2 DC- module: 100A.

Input voltage deviation limits, %, max	±10
Nominal mains frequency	50 Hz
CHAdeMO 	Output power 20/40 кWт Maximum current of the output cable 100 A Maximum connector voltage 550 V Cable length 6,5 m
CCS Combo 1 	Output power 20/40 кWт Maximum current of the output cable 100 A Maximum connector voltage 550 V Cable length 6,5 m
CCS Combo 2 	Output power 20/40 кWт Maximum current of the output cable 100 A Maximum connector voltage 550 V Cable length 6,5 m
Number of vehicles simultaneously connected to one Charging Station	1

Access types	RFID-card Smartphone app Chip-tag (extra option)
Charging station dimensions	1 DC- module: 381x494x134 mm. 2 DC- module: 704x494x134 mm.

CHARGING STATION FEATURES

Type of installation	Pedestal mount, Wall
Online device monitoring	Yes
Current adjustment	Yes
Возможность подключаться к заряд-ным станциям с коннектором Type 2 (Mennekes)	Yes (optional)
Цифровой дисплей для индикации коли-чества потребления электроэнергии	Yes
User interface management	Menu functions are managed via the mobile app
Enclosure material	Aluminium
Mechanical protection	IK10
Case protection class	IP44
Weight, kg	46
Ambient temperature	from -50°C to +50°C / 58°F and 122°F

3.2 APPLICATION AREA

The charger is designed exclusively for charging electric vehicles.

For information about the materials, please contact Autoenterprise sales representative or contact the Autoenterprise technical support team

The following sections should also be followed as part of the intended use:

- Only charge compatible electric vehicles.
- Failure to follow the instructions for use, maintenance and repair described in these operating instructions excludes any liability on the part of the manufacturer in the event of a defect.
- The system must only be operated, maintained and repaired by personnel familiar with the intended use and hazards!

- Carry out maintenance and repairs in accordance with the specifications in these operating instructions.
- The unit may only be operated with equipment and spare parts supplied or listed in the spare parts and consumables lists.

3.3 EQUIPMENT MODIFICATIONS

It is strictly forbidden to change, modify or alter the machine in any way without the explicit consent of the manufacturer.

All signs, stickers and pictograms attached to the machine must be visible, legible and cannot be removed. Signs, labels or pictograms that have become damaged or illegible must be replaced immediately. Please contact AutoEnterprise to coordinate such questions.

3.4 GENERAL ELECTRICAL SAFETY INFORMATION

Follow the safety instructions to avoid injury and material damage when working with the device.

Failure to follow these instructions can result in injury and damage to or destruction of the product.

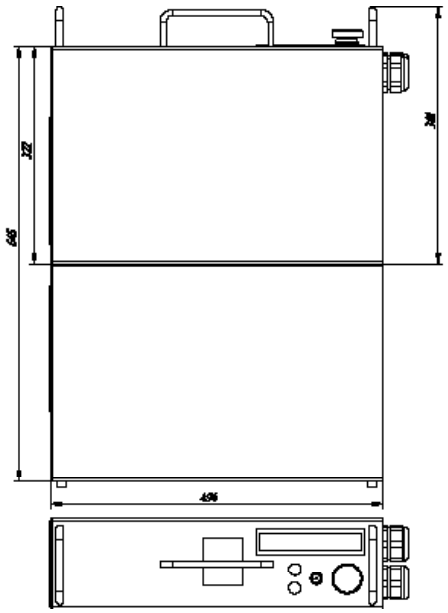
Ignoring the safety recommendations and instructions in this manual will relieve the manufacturer and his authorized representatives of all liability and claims.

Service and modification of the product wiring circuit should be performed by disconnecting the input circuits with external disconnecting devices and unplugging the charger from the electric vehicle. Please note that if there is any voltage is present at the mains input or at the other terminals of the product, life-threatening voltages may also be present due to internal connections.

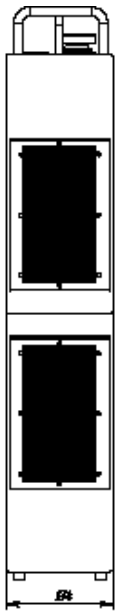
4. DIMENSIONS, STATION INSTALLATION

4.1 CHARGER'S DIMENSIONS AND PARAMETERS

FRONT VIEW



SIDE VIEW



4.2 TRANSPORTATION OF THE STATION

WARNING

There is a risk of injury from falling parts during transport, loading or unloading of the station.

ATTENTION

The charger may be damaged or destroyed if it is mishandled during transportation.

FOR THIS REASON, THE FOLLOWING SAFETY INSTRUCTIONS MUST BE STRICTLY ADHERED TO:

Transport the charging complex with the utmost care.

Take into account the centre of gravity of the charging system during transportation (minimize the risk of tipping over).

Take measures to prevent the charger from sliding sideways.

Transport the charger as carefully as possible to avoid damaging it.

Protect the charger from damage during transportation by using belts and inserts and leave sufficient clearance between other objects to be transported.

Temperature during transportation:

Min: 10 °C / 50 °F

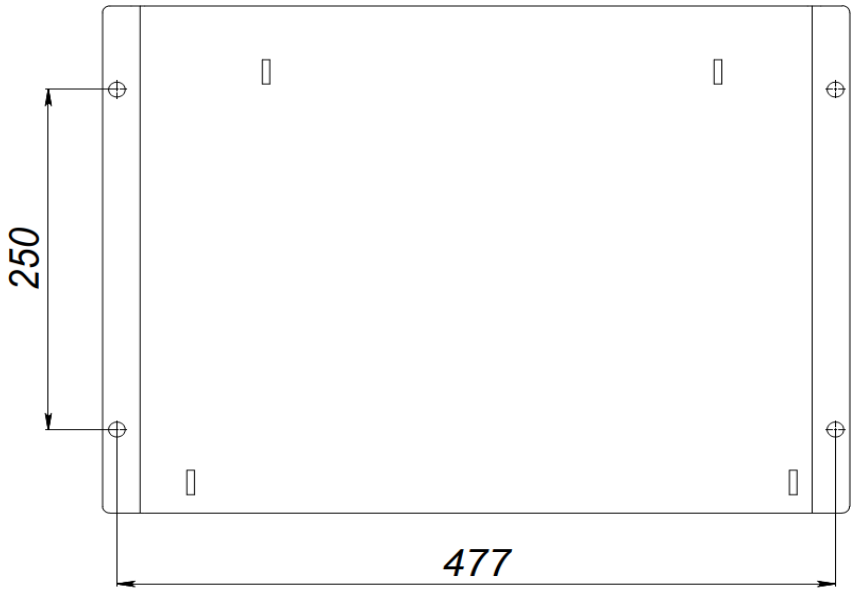
Max: 40 °C / 122 °F

4.3 INSTALLATION

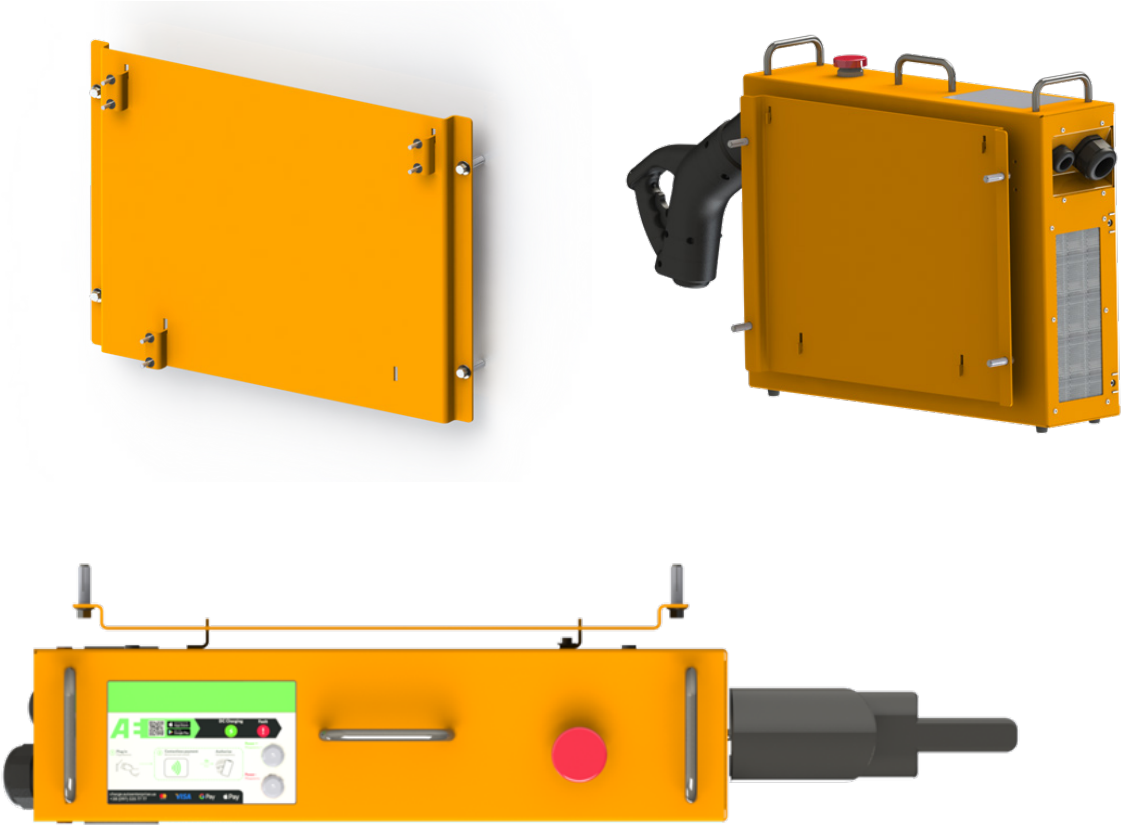
The charging station is designed for wall or floor installation.

When choosing the location of the charging station, the following conditions must be met: there must be a distance of at least 1 meter between the station building and a wall or any obstacle.

The figure shows a variant of the station installation on the wall.



To install the station on the wall, it is necessary to fix the mounting plate (the mounting dimensions of the plate are shown in the figure) using 4 anchor bolts, and then mount the charging station. The diameter of the mounting holes for the anchors is 10 mm.



4.4 CONNECTING THE CHARGING STATION

Make sure that all internal components are properly secured after transportation.
Check the quality of the connections of wires, loops, connectors. Tighten the terminals, bolt and screw connections, switching devices.

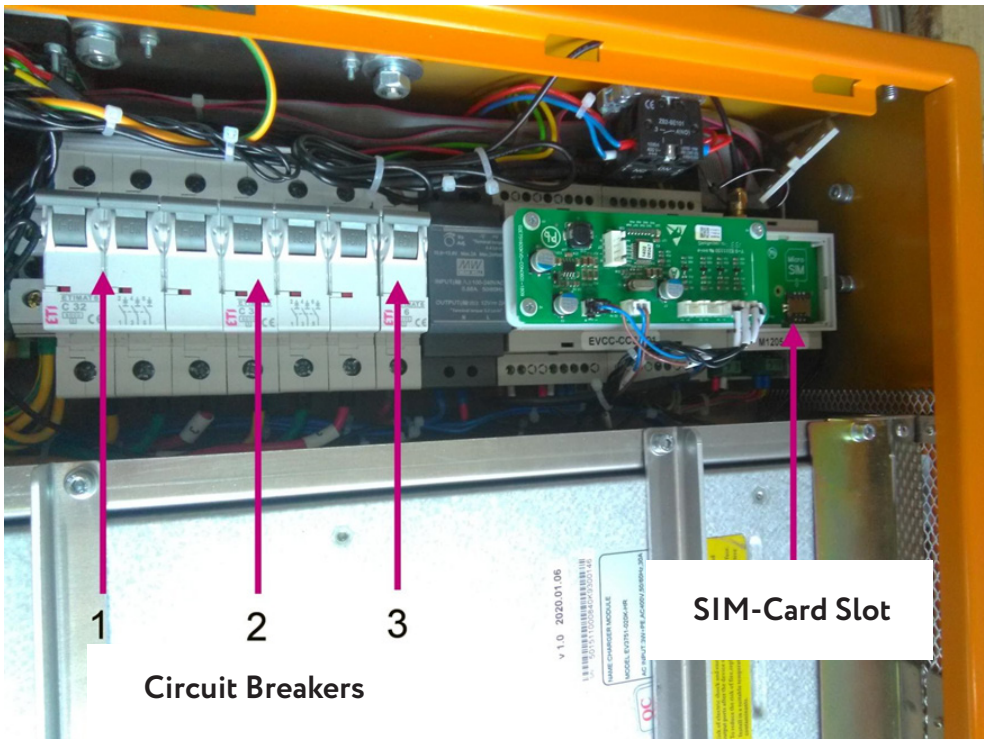
The charger does not require special settings or adjustments before switching on. Before connecting the charging station, make sure that:

- The power cable is led outside the station, and is equipped with an electric plug of the TYP-0352 type, with a capacity of 63 amperes.
- The mains supply cable is de-energized by external disconnecting devices.
- The mains power cable on the consumer side has a 63A socket, connected according to the connection diagram: 3 phases with separate neutral (N) and earth (PE) conductors.

IT IS FORBIDDEN TO CONNECT THE CHARGER TO THE AC MAINS WITHOUT AN EARTH CONNECTED!

To turn on the charging station, you must:

- remove the mounting cover located in the upper part of the station (above the control panel). The cover is secured with two # 4 Allen key screws;
- install a SIM-card with support for a 2G mobile network;
- put 3 circuit breakers in the operating position (up). The state of the circuit breakers can be visually checked through the sight glass at the top of the station.



The charging station is ready for use. Replace the mounting cover in its original position. Turn on external power.

The operating modes of the charging station are displayed on the LCD indicator, which also reflects: operating modes (readiness for charging, vehicle battery charge); version of software and firmware; station identification number; GSM network status (signal strength, network status), vehicle authorization process.

1 - indicator «DC Charging» of the car charging process;
2 - indicator «Fault»;
3- button for increasing the charging current;
4 - button for decreasing the charging current.

Connect the connector to the car, the charging process will start automatically.
The illustrations show examples of the LCD display of the charging station under different operating modes.

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The «DC Output» indicator light will flash green rapidly when the vehicle is being charged in the «Chademo» and «CCS» DC modes. In this case, the LCD displays information about the time from the start of charging, charging current and voltage.

Charging 0:03:50 50A/390V

In case of any error, a red indicator "Fault" will appear on the screen.

For diagnostics and restoration of work, contact the service support and inform the operator of the serial number of the charging station.

The display of modes and statuses of the ZK on the LCD depends on the software version and may differ from version to version.

There is an emergency stop button on the front of the case.

When the emergency stop button is pressed in the DC charging mode, the electrical control circuit of the gearbox is automatically disconnected.

In this case, the red indicator of the information board flashes continuously at a frequency of 2 times / sec. To continue the operation of the ES, it is necessary to manually return the emergency stop button to its original position (pull the button down).

4.5 STORAGE

Store the charger in a sealed container until it is assembled and installed.

Charging station storage conditions:

- The storage area should be dry, free of dust, caustic materials, vapours and combustible materials.
- Store in a storage room with appropriate weather protection.
- Do not expose the charger to impacts.

Storage conditions:

- Storage Temperature: 0 to +40 ° C (32 to 104 ° F)
- Relative humidity: max. 85%
- Avoid extreme temperature fluctuations
- If stored for a long time, check the general condition of all parts and packaging regularly

5. MAINTENANCE OF THE COMPLEX

ATTENTION

- Improper maintenance can result in serious injury or damage. For this reason, maintenance may only be carried out by authorised, trained personnel who are familiar with the product operation and strictly adhere to all safety instructions.

- The use of explosive or flammable cleaning agents presents a risk of fire or explosion.

- Do not store flammable or explosive liquids near the charging station.

ATTENTION

Before performing any kind of maintenance, make sure that the charger is disconnected from the grid.

INFORMATION

To ensure maximum availability and service life of the system, we recommend that you that you clean the charger on the inside on a regular basis.

ATTENTION

Improper troubleshooting may result in serious injury or damage. For this reason, it may only be carried out by authorized, trained personnel who are familiar with the system operation and strictly adhere to all safety instructions.

In the course of operation the following maintenance are carried out:

- Visual inspection for overheating of equipment; check, pulling connections;

- Identification of defective parts and assemblies, maintenance and replacement.

It is necessary to replace the filters of the complex at least once a year.

In case of increased dust in the room where the charging complex is located, it is recommended to clean out the dust from the internal elements of the complex from dust at least once in 6 months. This work should be performed by a representative of the manufacturer or a qualified specialist.

Attempting to carry out maintenance independently may cause electric shock and lead to warranty cancellation.

Internal capacitors retain their charge after the power supply is switched off.

Authorized service personnel must disconnect all AC power sources from the charger to reduce the risk of electric shock before starting any maintenance or cleaning on the charger or on any circuits connected to the charger.

Preventive inspection of the charger should be carried out at least once every 3 months. To do this, the charger must be disconnected from live circuits and its housing, contacts and vents must be thoroughly cleaned of dust and dirt, and the quality of wire fastening must be checked. Screws of terminal blocks and wire ends must be clamped, the wires must not have damaged insulation.

In the event of a malfunction, please check the device first. In case of failure, write down all the data of the device (year of manufacture, software version, etc.) and call us by phone next to the powered on device. If you have any questions or technical problems, please contact us directly at the above address.

Name of malfunction, external manifestation and additional signs	Probable cause	Possible remedy
Loss of communication with the complex	Modem failure	Replacing the modem or checking the status of the SIM card
	Bad location of the antenna that receives GSM signal	Changing the location of the antenna for the best reception of the GSM signal or the replacement of the antenna (for a more powerful with a stifter)
Damage to the charging cables	Physical wear and tear, careless handling of equipment	Disconnect the device. If the cable cannot be recovered -replace it
	Connector malfunction	If you can not fix it by yourself, send it for repairs
LCD charging indicator does not work (no power supply)	No input voltage	Contact the owner of the facility where the device is installed, and find out the reason for the lack of voltage
	Circuit breakers or RCD charging system triggered	Restore the operation circuit breakers or RCDs of the charging complex
Other malfunctions	The charging complex does not provide the set electric parameters for the EV battery charge	Contact the «Autoenterprise» technical support team

6. DISASSEMBLY

ATTENTION

Injury may occur when disassembling the system. Therefore always wear suitable protective clothing, safety shoes, etc.

ATTENTION

The system must be disconnected from the power supply by means of external disconnection devices.

IN SEQUENCE

1. Make sure that the input voltage of the charger is disconnected.
2. Carry out disassembly work.

INFORMATION

Always use suitable tools to disassemble the complex.

Follow the specific disposal instructions

TECH SUPPORT

Contacts:

1. You can write an email to tech support using the contact page on our web-site.
2. You can call on numbers listed on the web-site.