Instruction
manual

CHARGE COMPLEX T

Autoenterprise cannot be held responsible for any direct or indirect damages, which result from using or working with the products electric circuits or software described herein. Read the instructions carefully before using the product. Autoenterprise reserves the right to make changes, without notice, to any product described.

1. INTRODUCTION

CHARGE COMPLEX T – 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 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 LIABILITY AND WARRANTY

All information, illustrations, sheets, specifications and diagrams contained in these instructions comply with the station charachteristics at the time of publication. We are not responsible for errors, missing information or any subsequent damages or consequential damages.

Strict adherence to the safety procedures described in these instructions and attention while 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 failure to comply with the instructions in this manual.

Additionally, the manufacturer cannot be held liable for any personal injury or material damage, whether indirect, consequential or direct loss of profits, working process interruption 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 AutoEnterprise. It is strictly prohibited to make any changes 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.

2.3 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.

2.4 MANUFACTURER'S LABEL

The marking on the charging complex is located on the GSM modem inside of 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

The development and production of the complex is carried out in accordance with the current technological norms and, therefore, it complies with industry safety standards.

However, hazards can arise if the charger is operated by untrained personnel, used improperly or used for purposes other than those for which it is intended. This chapter provides an overview of all the important safety considerations required to optimize safety and ensure safe and reliable operation of the machine.

3.1 APPLICATION AREA

The charger is designed exclusively for charging electric vehicles.

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

The points below 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

3.2 COMPLEX SPECIFICATIONS

Charging mode	J1772 (Type 1), Mennekes (Type 2), CHAdeMO, CCS (Type 1/2)
Rated input voltage	3 phase 380V
Max power output	225 kW
Nominal mains frequency	50 Hz
Main ports and charging station power output: Chademo, CCS (Type 1/2)	 1 pc. each Output power 75 kW Maximum cable current 150 A Maximum connector voltage 500 V Cable length 6,5 m
J1772 (Type 1) Mennekes (Type 2)	1 pc. Output power 18,5 kW (10 kW - optional) Maximum cable current 80 A Maximum connector voltage: 1-phase, 230 V Cable length 6,5 m 2 pcs. Output power 43 kW (22 kW - optional) Maximum cable current 3x63 A Maximum connector voltage: 3-phase, 380 V Cable length 6,5 m
Number of vehicles simultaneously connected to one Charging Station	3 (+3 optional)
Authorization methods	RFID cards, Mobile application, Website, Offline operation. Optional: Chip ID tag, Call center, Payment Terminal.
Size	469x1059x2077 mm

CHARGING COMPLEX FEATURES

Type of installation	Floor mount
Online device monitoring	Yes
Current adjustment	Yes
Ability to set charging rates	Yes
Digital display to indicate the amount of electricity consumed	Yes
User interface management	The menu functions are controlled via the buttons on the control panel or via the application. There's also a mechanical emergency shutdown button.
Enclosure material	Steel with anticorrosive coating
Mechanical protection	IK10
Case protection class	IP65
Power cable entry from below	Yes
Net weight, kg	250
Operating temperature	from -50°C to +50°C

In emergency situations, the charging complex disconnects the input power circuits by using a residual-current device. The charging complex control system is powered from the grid via an additional circuit breaker. The output cable is connected through the sealing sleeves/ cable glands. After the voltage is switched on, the charger is ready to work in less than 1 minute. The charging complex is designed for continuous operation. The microcontroller that provides communication with the car is switching the charger operation modes. The meter is integrated along with the mechanical blocking of Type 2 sockets during the charging process.

An emergency stop button is located on the front side of the charging station. The protection from unauthorized access via the electromagnetic lock and the inner door sensor is implemented in the charging complex. Data exchange between the charging station and the server and online monitoring in real time is implemented using a GSM modem via 2G mobile networks. The GSM modem supports: RS485 interface; 2x20 character LCD display; EVCC-DC-003, EVCC-AC-003, EVCC-AC-0031, and EVCC-AC-005 series controllers; RFID tag reader.

3.3 EQUIPMENT MODIFICATIONS

It is strictly forbidden to change, modify or alter the equipment in any way without the explicit consent of the manufacturer. All signs, stickers and pictograms attached to the charger must be visible, readable and cannot be removed. Signs, labels or pictograms that have become damaged or unreadable must be replaced immediately. Please contact AutoEnterprise for help.

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

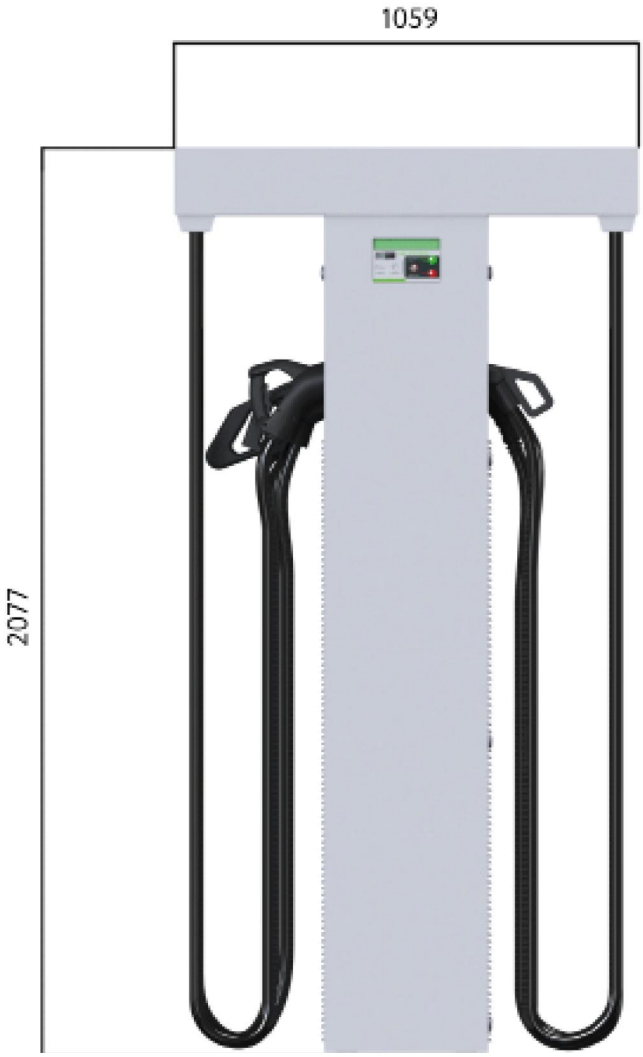
During the installation and operation of the charging complex the following should be adhered to: «Rules of electric installations», «Rules of technical operation of electric installations for consumers», «Safety rules for the operation of electric installations for consumers» in the part concerning electric installations up to 1000 V GOST 22261-94. The method of human protection against electric shock charger corresponds to class 1 of GOST 12.2.007.0-75.

Before servicing and changing the wiring diagram of the station, disconnect the input circuits. In order to do this, disconnect the vehicle from the charger and use the external disconnection devices. Please note that if phases are connected incorrectly, there may be life-threatening voltage on the connectors.

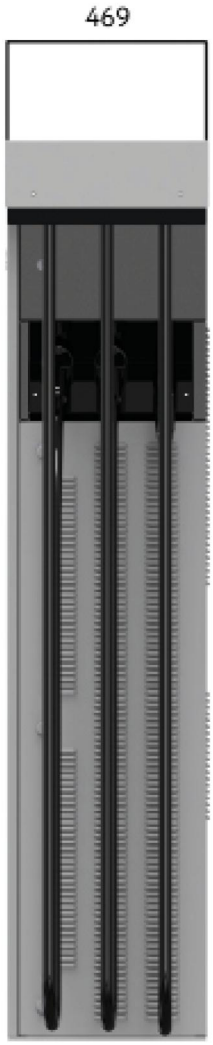
4. COMPLEX SPECIFICATIONS

4.1 CHARGING COMPLEX DIMENSIONS AND PARAMETERS

FRONT VIEW



SIDE VIEW



Included are:
- Encased charging station – 1 pc.
- Connector «J1772» (Type 1) (with a cable) - 1 pc.
- Connector «Mennekes» (Type 2) (with a cable) - 2 pcs.
- Connector « CHAdeMO» (with a cable) - 1 pc.
- Connector «CCS (Type 1)» (with a cable) - 1 pc.
- Connector «CCS (Type 2)» (with a cable) - 1 pc.
- Two-line display - 1 pc

All connectors are permanently installed in the charging complex case.

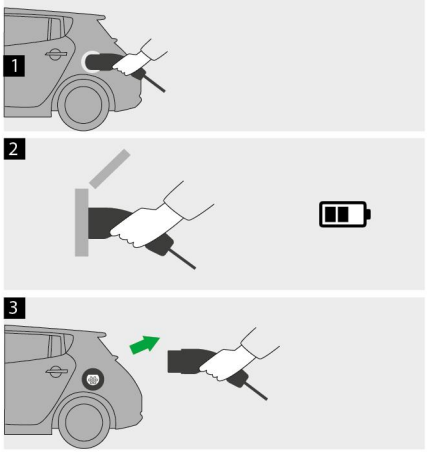
CONNECTORS DESCRIPTION AND CHARGING COMPLEX PARAMETERS

Types of connectors:

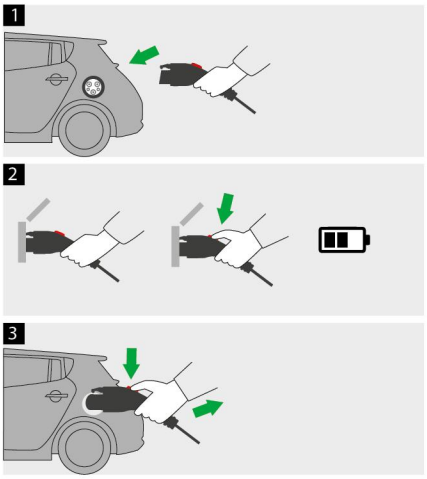
J1772 (Type 1);
Mennekes (Type 2);
CHAdeMO;
CCS (Type 1);
CCS (Type 2).

«CHARGE COMPLEX T»				
Connector type	Amount	Current, A	Power, kWh	Max Voltage, V
J1772 (Type 1)	1	80	18,5	230
Mennekes (Type 2)	2	3x63	43	380
CHAdeMO	1	150	75	500
CCS (Type 1/2)	1	150	75	500

AC connector
Mennekes (Type2)

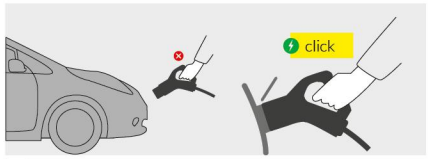


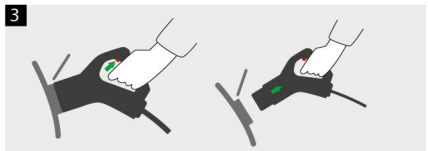
AC Connector
J1772 (Type1)



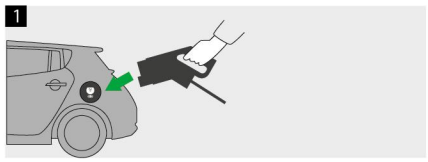
CHAdeMO connector

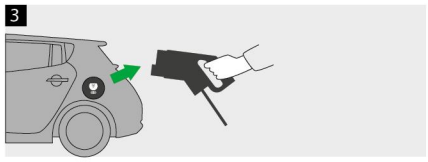
CHAdeMO connectors have a lock button





CCS connector

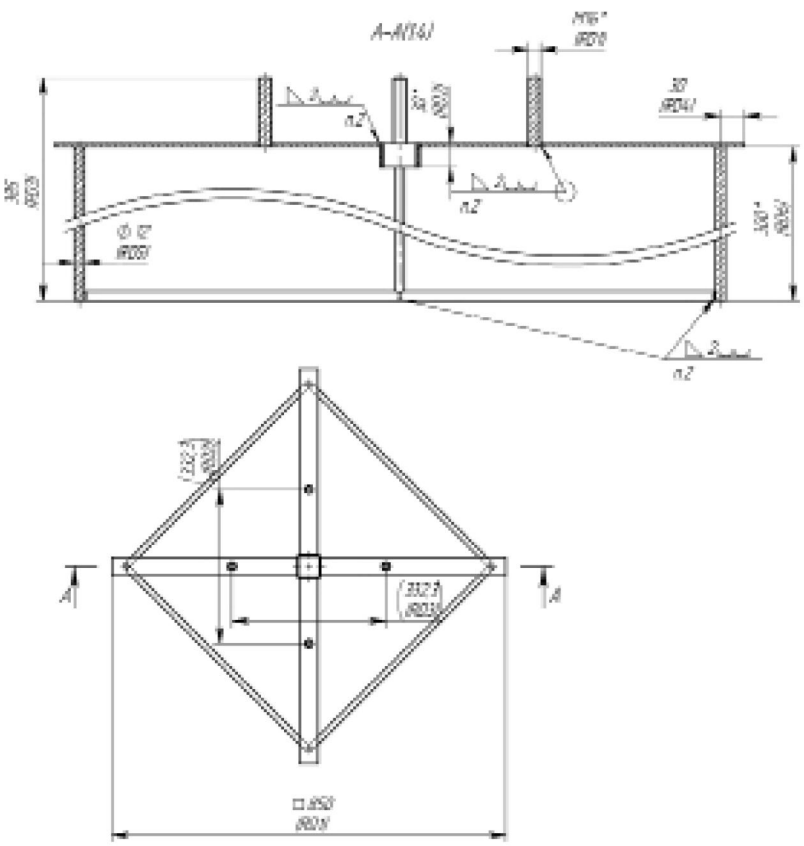


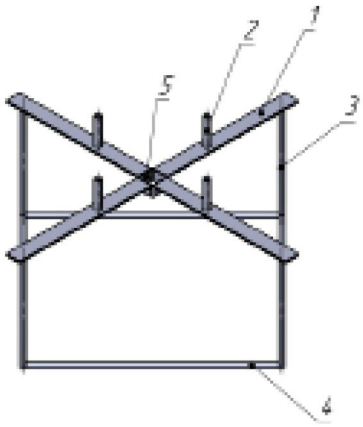


Total power output - 225 kW. The charging complex is designed for the installation of 6 «KEHUA, 20 kW» DC modules.

4.2 COMPLEX INSTALLATION RECOMMENDATIONS.

The complex is installed on a concrete base, 1300x1300x500 mm in size. We recommend to prepare a foundation with an installed metal base (an example of a base structure is shown in the drawing below).

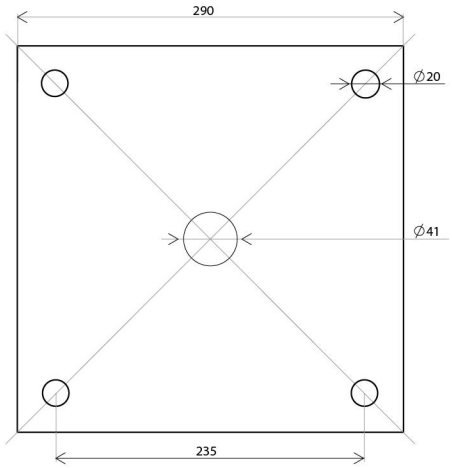




The base is to be filled with concrete. The ground at the place of installation of the charging station must provide high stability of the base. There should be no underground cables or pipes in the area around the foundation.

The foundation usually settles for about a week. Once the concrete solidifies, you may proceed with installation.

The plate should be 8 mm thick. The measurements of the plate are shown in the figure on the right.



WARNING

While preapairing foundation, lay the power cable (not included in the delivery). Use appropriate insulation for the power cable.
Only qualified personnel should connect the power cable to the power supply. The recommended cable cross section depends on the power of the charging complex. When 6 DC modules we recommend using cables with a copper conductor with a cross section of 4x240 mm2. It is necessary to carry out protective earthing of the complex with a copper cable with a cross section of at least 16 mm2. Before connecting the complex to the power supply, it is recommended to install an AC circuit breaker between the complex and the power supply. It is necessary for the further maintenance. We recommend using a 450A, 3-pole circuit breaker.

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4.3 COMPLEX CONNECTION

Insert the SIM card and ensure that the circuit breakers are in the working position (up).

The charging complex modes are indicated on the LCD screen along with: operating modes (i.e ready to charge, charging), software update version, charge complex ID, connection to mobile networks, the cars authorization process.

5. 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 external disconnection devices.

DISASSEMBLY SEQUENCE

1. Make sure that the input voltage is disconnected.
2. Carry on with disassembly.

INFORMATION

Always use proper 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 us using the phone numbers listed on the web-site.

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