

«Single»



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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.

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1. INTRODUCTION

SINGLE – 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 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!

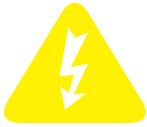
Risk of injury or death

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 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.
- Using of the system in other areas is contrary to its intended purpose. The manufacturer is not responsible for any damage to the equipment resulting from such use. The user is solely responsible for any damage resulting from improper use of the system.

3.2 CHARGING STATION FEATURES

Type of installation	Wall mount / Pedestal mount (optional)
Online device monitoring	Yes
Current adjustment	Yes
Possibility to manage rates of the station	Yes
Single body version	Yes
Digital display to indicate the amount of electricity consumed	Yes
User interface management	Menu functions are managed via the mobile app
Enclosure material	Steel with anticorrosive coating
Mechanical protection	IK10
Case protection class	IP65
Power cable entry from below	Yes
Weight, kg	12
Ambient temperature	-50°C to +50°C

The gear control system is powered from the mains via an additional circuit breaker. The time of initial readiness of the charging station after switching on the voltage is not more than 1 minute.

The charging station is designed for continuous operation. Switching the operation modes of the charger is carried out under the control of a communication microcontroller providing communication with the car.

Relative humidity should not exceed 95% without condensation.

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.

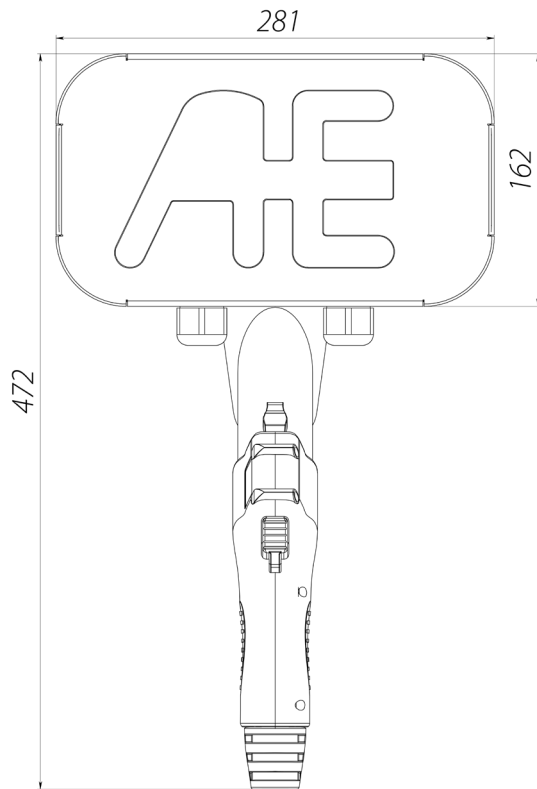
Ignoring the safety recommendations and instructions in this manual will relieve the manufacturer and his authorized representatives of all liability and claims.

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.

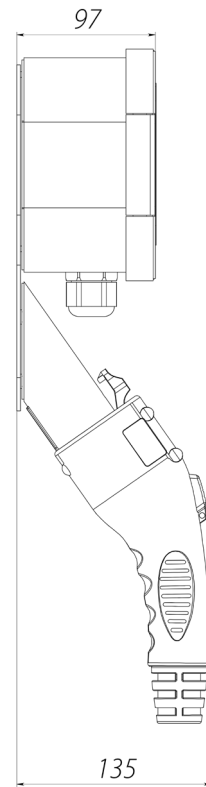
4. DIMENSIONS, CONNECTIVITY

4.1 CHARGER'S DIMENSIONS AND PARAMETERS

FRONT VIEW



SIDE VIEW



The charging station is structurally designed for wall mounting and has the following control and management bodies:

- The charging station in the casing
- The «Type 1» connector or «Type 2» connector - 1 pc.
- Information display - 1 pc

CHARGING STATION SPECIFICATIONS

Socket and cable type for connecting the station to the electric vehicle:


Charging Station «AE-STATION»				
Socket type	Quantity	Current, A	Max power, kWh	Max voltage, V
Type 1 (SAE J1772)	1	80	19	240
Type 2 (Mennekes)	1	63	45	380

CHARGING STATION MODIFICATIONS




The charging station is available in the following configurations:

SINGLE TYPE 1 (SAE-J1772) SPECIFICATIONS

Charging mode under IEC61851-1	Type 1
Nominal input voltage	1 phase 240V
Input voltage deviation limits, %, max	+10
Nominal mains frequency	50 Hz
Main ports and charging station capacity: Type 1 (SAE-J1772) 	1 p. Output power of the port 19 kWh Current - 80 A
Access types	Stand-alone operation RFID-card Smartphone app Chip-tag (extra option)
Delivery contents	Charging station, user manual
Charging station dimensions	135x281x472 mm

SINGLE TYPE 2 (MENNEKES) SPECIFICATIONS

Charging mode under IEC61851-1	Type 2
Nominal input voltage	3 phase 380V
Input voltage deviation limits, %, max	+ -10
Nominal mains frequency	50 Hz
Main ports and charging station capacity: Type 2 (Mennekes) 	1 pc. Output power of the port - 45 kWh Current - 63 A
Access types	Stand-alone operation RFID-card Smartphone app Chip-tag (extra option)
Delivery contents	Charging station, user manual
Charging station dimensions	135x281x472 mm

4.2 TRANSPORTATION

WARNING

There is a risk of injury from falling parts during transportation, 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 station with the utmost care.
- 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.

4.3 INSTALLATION

Ensure that all internal components are properly secured after transportation.

Check the connections of wires, loops, connectors. Check the tightening of terminals, bolts, screws, and switchgear.

The charger does not require any special setup or adjustment before it is switched on.

Before connecting the charging station to the grid, make sure that:

- The power supply (input) cable on the mains side is de-energized by external disconnecting devices.
- The mains input has a connection diagram of 1 or 3 phases with separate neutral (N) and ground conductors (PE).
- If you connect a 4-wire cable, make the protective earth connection with a separate conductor.

Next, connect the input power cable to the AC mains:

- «Type 1» 220 V - 3x6 mm² version to the corresponding input terminals (L - colour, N - blue, PE - yellow-green);

or

- «Type 2» 380 V - 5x6 mm² to the corresponding input terminals (L1 - colour, L2 - colour, L3 - colour, N - blue, PE - yellow-green).

It is strictly forbidden to supply voltage to the mains input of the charging station when grounding is not connected.



If the connection is made with a 4-wire cable, perform the external grounding with a cross section of at least 6 mm² marked «PE» in the terminal compartment.

THE FIRST CONNECTION TO BE MADE IS THE GROUND WIRE TO THE GROUND BUSBAR MARKED «PE». DO NOT SWITCH ON THE CHARGER WITHOUT A CONNECTED GROUNDING!

Non-compliance with this requirement may result in the energizing the charger body, electric shock damage to the service personnel and consumers, as well as in a failure of the charger.

To switch on the externally controlled charging station, a mobile network operator SIM card must be installed in the GSM modem.

Next, the power cable must be connected to the AC mains using external switching devices.

The charging station operation modes are presented on the LCD display, which, among other things, displays the following information: operation modes (ready for charging, car battery charge), software and firmware version, station number, GSM network status (signal strength, network status), vehicle authorization process.



In the charging mode, it displays information about the charging power in kW*h and the percentage of the car battery charge.

The modes and operation of the charging station on the LCD display depend on the software version and may vary from version to version.

4.4 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:

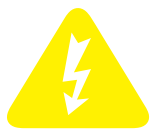
- Storage Temperature: 0 to +40 ° C (32 to 104 ° F)
- Relative humidity: max. 85%
- Avoid extreme temperature fluctuations
- If stored for a long time, check the general condition of all parts and packaging regularly

5. MAINTENANCE OF THE STATION



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 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.

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

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.

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