



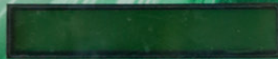
# «COMMERCIAL 2»



## AutoEnterprise Charger

- 1 Download AE Charging Point in Play Market or App Store
- 2 Log in or sign up to your account
- 3 Top-up the balance, if necessary
- 4 Add your EV to your account
- 5 Plug in the connector to your car
- 6 Select the station/connector and your EV in the app
- 7 Press "start charging" or "charge"

You can watch charging  
process right in the APP.



autoenterprise\_ukraine



AutoEnterprise

AutoEnterprise.com.ua

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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

**COMMERCIAL 2** - is a high quality charging station (hereinafter referred to as «the station»), 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 the energy consumed from a 380V AC three-phase network or from the 220V AC single-phase network to charge 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!**

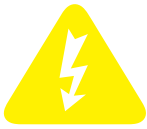
Risk of injury or death

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 technology 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 adherence to technical developments at any time without prior notice.

## 2.4 DISPOSAL INFORMATION

**Do not dispose of the charging station together with household waste!**



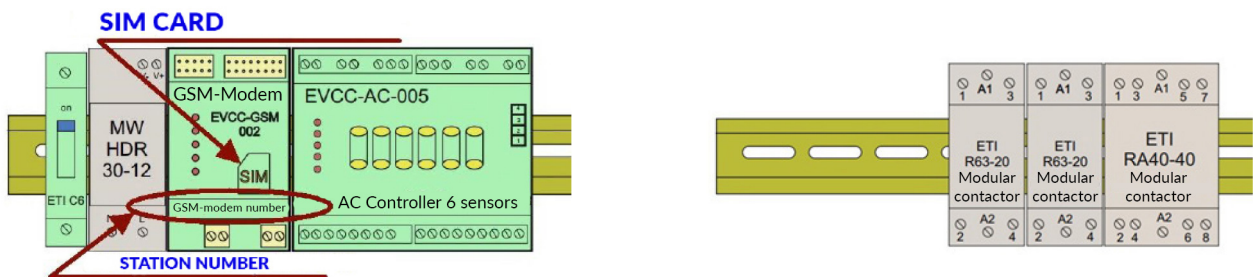
Electronic devices must be disposed of in accordance with the local directives for the disposal of electronic and electrical waste. If you have any further questions, please contact your supplier.

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

## 2.5 MANUFACTURER'S LABEL

The serial number is assigned by the manufacturer, located on the front panel of the station and consists of 4 digits.

The station's factory number is specified in the shipping documents and is also located within the station on a GSM-modem (partial housing disassembly is required to secure access to the station's internal components). The picture shows the layout of the station with the removed false panel. The factory number consists of alphabetic and digital symbols (example: M005897).



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

In case of malfunctions in the station operation, you should provide the station number to the technical support service and follow the instructions of specialists.

This will help you to solve most of the problems remotely and avoid the need to send (transport) the equipment to eliminate such problems.

### 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 according to the specifications in this manual.
- The unit may only be operated with equipment and spare parts supplied or listed in the spare parts and consumables lists.
- Using the charger 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.

#### Type 1 + Type 2 Charging Stations Specifications

Charging mode under IEC61851-1	Type 1, Type 2
Nominal input voltage	3 phases 380V
Input voltage deviation limits, %, max	+ -10
Nominal mains frequency	50 Hz
Main ports:	1 p.
Type 1 (SAE-J1772)	Output power of the port 7,4 kWh Current- 32A
Type 2 (Mennekes)	1 p. Output power of the port - 22 kWh Current - 32 A

Access types	RFID-card Smartphone app Chip-tag (extra option)
Delivery contents	Charging station, user manual
Charging station dimensions	2075x464x280 mm

**3 Type 1 connectors**



**2 Type 1 connectors  
1 Type 2 connector**



**2 Type 2 connectors**



Also, as per prior agreement, the following assembly options are possible:

- 2 Type 1 connectors;**
- 1 Type 1 + 1 Type 2 connectors;**
- 1 Type 1 + 2 Type 2 connectors.**

Signs, labels and pictograms attached to the station must be visible.

### CHARGING STATION FEATURES

Type of installation	Pillar mounting
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
Enclosure material	Station functions are managed via the mobile app
Mechanical protection	Steel with anticorrosive coating/plastic
Case protection class	IP65
Weight, kg	70

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.

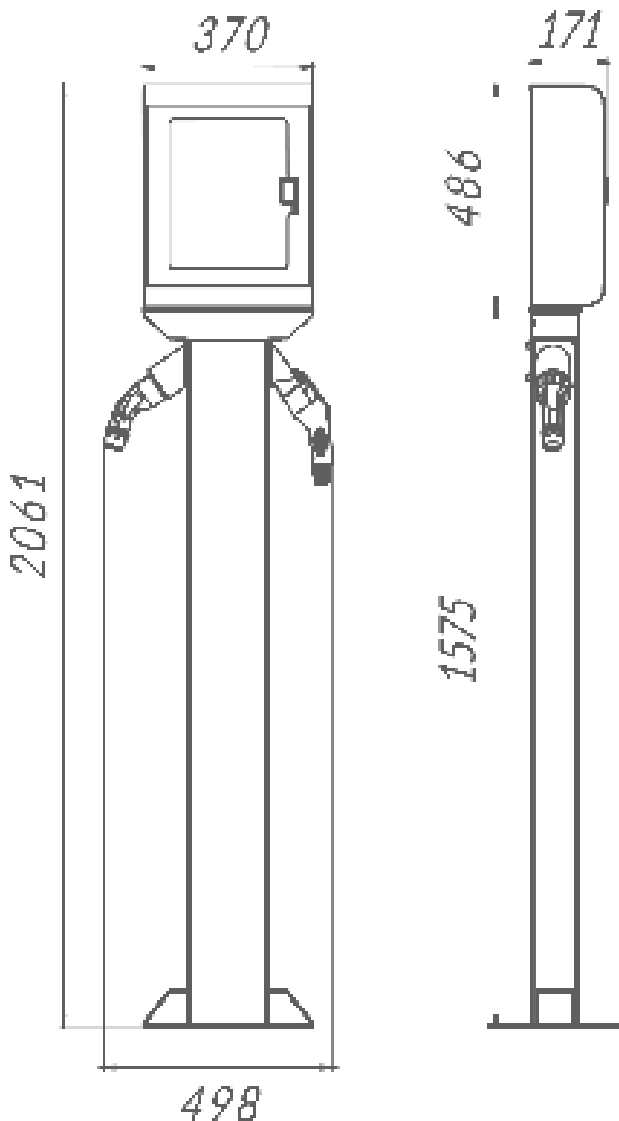
Failure to follow these instructions can result in injury and damage to or destruction of the product.

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. CONNECTIVITY

### 4.1 CHARGER DIMENSIONS AND PARAMETERS



The station is structurally designed as a monoblock mounted on a stand and has the following control and management bodies:

**Charging station in the case on a stand (optional - without a stand) - 1 pc;**

**connector «Type 1» (with cable);**

**connector « Type 2» (with cable);**

**Information display - 1 pc**

All connectors are stationary mounted in the station housing.

### CONNECTOR DESCRIPTION AND CHARGING STATION PARAMETERS.

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

Charging station «COMMERCIAL 2»				
Socket type	Quantity	Current, A	Max power, kWh	Max voltage, V
Type 1 (SAE J1772)	1	1x32	7.4	1x220
Type 2 (Mennekes)	1	3x32	2	3x380

## 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.



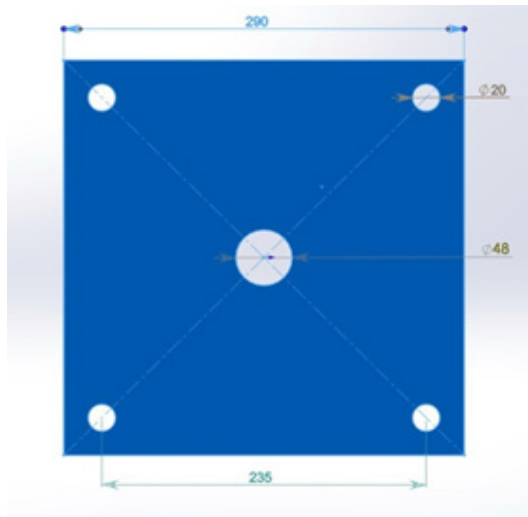
In the case of wall mounting options, it is necessary to attach the station to the metal mounting plate that is supplied with the station.

Make sure that all internal elements are properly secured after transport.

The station does not require any special adjustments or adjustments before it is switched on.

## INSTALLATION RECOMMENDATIONS

The complex is installed on a 500x500x500 mm concrete base. We recommend to prepare a special foundation with an installed metal plate (plates are available). The plate sizes of a station stand for self-making the plate are given in the figure below.



The base is cast in concrete. The ground at the station location must ensure high stability of the foundation. No underground cables or pipes shall be laid in the foundation area.

The foundation usually takes about a week to mature. Once the concrete has settled, you can start the installation.

### ATTENTION!!!

Along with the preparation of the foundation, it is necessary to ensure the laying of the power cable (not included in the delivery). Appropriate insulation must be used when routing the power cable.

We recommend routing and connecting the power cable inside the charging system stand before installing it on a concrete base.

The power cable must only be connected to the AC mains by qualified personnel.

Ensure before connecting the charger station that:

- The power cable (input) on the mains side is de-energised by external disconnecting devices. We recommend installing a suitable 3-pole circuit breaker for a current of 80 A. The minimum cross-section of each lead wire should be at least 16 mm<sup>2</sup>, the lead material should be copper, twisted (5-16 mm<sup>2</sup>). For configuration: 1 connector Type 1 + 2 connectors Type 2, the cross section of the supply cable shall not be less than 35 mm<sup>2</sup> for each core (circuit breaker for a current of 100 A, cable 5x35 mm<sup>2</sup>).
- The 380 V mains supply input has a 3-phase connection diagram with separate conductors (L1, L2, L3 - phase; N - neutral; PE - «ground»).

Next, connect the input power cable to the AC mains to the corresponding input terminals (L1 - color, L2 - color, L3 - color, 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.

**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 SIM card of the mobile network operator 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



### ATTENTION

- Improper maintenance can result in serious injury or damage to the station. For this reason, this work may only be performed by authorized, trained personnel who are familiar with the operating principles of low-voltage electrical equipment and who strictly comply with all relevant safety instructions when working with electrical systems.
- It is strictly forbidden to store flammable or explosive liquids near the charging station.



### ATTENTION

Before performing any maintenance work, 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 keep the inside and the outside of the charger clean on a regular basis.

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

- Visual inspection for overheating of equipment; check, pulling connections;
- Identification of defective parts and assemblies, maintenance and replacement.

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 work 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 battery 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 case of a technical malfunction, please start by recording all station data (number, software version, etc.) and then call us by phone while you're next to the switched 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 charging station	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 socket	Physical wear and tear, careless handling of equipment	Disconnect the device. If the cable cannot be recovered -replace it.
	Socket 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	Discover the reason for the lack of voltage.
Other malfunctions	The charging station 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.

## **AUTOENTERPRISE.UA**