

# Kometa CS-40V

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Instruction manual

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# introduction

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The principle of operation is based on high-frequency charger voltage conversion and the possibility of adjusting the profile of the charge, has high efficiency (about 92%), which saves up to 30% of the electricity needed to charge the battery when compared with the classical charging stations.

Management chargers made high performance microprocessor system with self-diagnosis function. The stability of the output characteristics and charge optimum shock significantly increases the service life of the battery.

*DIN 41774 (DK 621.314.63:621.382.2:621.355.2) p. 2*

*...3.3 Influence of the mains voltage.*

*Chargers are not equipped with means of stabilizing the output parameters are the output current depends on the fluctuations of the supply voltage. Increasing input (supply) voltage charging stations by 5% leads to an uncontrolled increase in the charging current at a voltage of 2,0V / cell at 15%, with 2.4 V / cell at 30%, and at 2,65V / cell is about 50%.*

*Therefore, particularly after gassing overvoltage (2.4 V / cell), the supply voltage increase by 5% and the charge continued for 5 minutes results in degradation of battery ....*

*Chargers 50 hertz type, based on the «DIN 41774 (DK 621.314.63: 621.382.2: 621.355.2) p. 2" are influenced by fluctuations in the input voltage supply that for the CIS countries is the "norm". As a consequence, the battery is overloaded, reducing its life "*

Charger allows you to charge both in automatic mode in accordance with the selected profile, and manual \* stabilized with the possibility to set the parameter, current or voltage with a resolution of 1 A or 1 volt.

Charger produces charge the battery under the supervision of  $dU / dt$ .

Charger \*\* has the ability to adjust the profile of the charge depending on the external temperature conditions.

## **- Lightweight and compact**

Compared to classical chargers weight of the device several times lower, which reduces the cost of installation and operation.

## **- Versatility**

It is now possible to use one charger for charging a wide range of batteries of various capacities and technologies (classical, low-maintenance and maintenance-free).

## **- Optimizing**

The charger provides a constant current and voltage during mains fluctuations, guaranteeing a constant and optimized charge.

End of charge occurs at the end of the voltage rise  $dV / dt$  which excludes the possibility of undercharging or overcharging (for batteries with liquid electrolyte).

## **- Savings**

Due to the high frequency conversion device has a high efficiency (about 91%), allowing a monthly saving of 20% energy compared to the 50 Hz transformer chargers,.

The absence of high currents at power reduces cable requirements and protective equipment.

# Technical characteristics

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## General characteristics:

- Mains - three-phase, 50 Hz, 380 V +/- 10%
- Power consumption, kW, not more than - 4.8
- Rechargeable battery - a battery of 20-acid batteries with a total
- a nominal voltage of 48 volts
- Mode of operation - long;
- Overall dimensions, mm, no more - 520x360x245
- Weight, kg, not more than – 22

## Features in manual mode:

- The range of adjustment of the charging current, A 5 - 100;
- The instability of the charging current,%, not worse - 1.

## Characteristics automatically:

- IUla profile in accordance with DIN 41772 Claim 9 (Appendix 1)
- Profile WoWa, in accordance with DIN 41772, Claim 9 (Appendix 1)
- Profile Iola, in accordance with DIN 41772 Claim 9 (Appendix 1)
- Profile Recovery Bank.
- Equalizing charge.
- Identifying and transmitted indexing capacity in the battery A \* h
- Termination voltage charge - 53 Volt.

The device is designed for operation in ventilated rooms with climate control conditions in the absence of rainfall, direct sunlight, sand and dust.

**Can operate outdoors, in the open air.**

## Rated climatic conditions are:

- Ambient temperature - 10 to 35 degrees. C;
- Relative humidity at 25 degrees. To 80%.

# Package

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## Package Included:

- The charging station - 1 pc. ;
- Passport. Technical description and user manual 1 pc.

**Note. The cables (mains and battery connection) supplied (length can be agreed separately). It is strictly forbidden to change the length of the standard cable for connection to the battery or use a cable not included in delivery.**

## safety Standard:

- **By the operation of the unit allowed a person under 18 years of age, having a tolerance band of not less than a second and carefully study these instructions!**
  - **Removing the back or front wall made not earlier than 1 hour after the complete shutdown of the mains charger and battery!Эксплуатация запрещается:**
  - **If damaged, the power cable, connecting wires;**
  - **In the absence of a protective earth;**
  - **In hazardous areas, and in areas with chemical environments, as well as in open areas during rainfall;**
  - **In the same room with rechargeable batteries.**
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# Getting Started

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1. Install the plug on the battery cable charging station in accordance with the correct polarity, red - "plus" Blue - "minus".
2. Make sure you have the grounding in the "outlet" three-phase 380V.
3. Connect the charging station plugs into a network via 380V.
4. Connect the battery connector to the battery cable connected to the charging station with the correct polarity.
5. Turn on the charging station Kometa CS-40V by pressing the power button on the bottom wall of the housing.
6. After power will see a dialog box:



1. Press any of the buttons to activate the menu:



- "enter" key



- keys navigate the menu up or increase the charge current,



- key move down the menu or decreases the charge current,



- button to exit the menu or stop the battery charge

# Posts diagnostic system charging station Kometa CS-40V

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## 1. Notice of overheating

The charging station Kometa CS-40V has the function of self-diagnostics. In operation, the possibility of exceeding the operating temperature of the individual components of the station, with the on-screen dialog box appears, warning of overheating.



When you see this message charging station, stop the battery power without shutting down forced cooling.

After returning the temperature to acceptable values, the battery charge will be resumed automatically.

**Caution! With regular occurrence of this message, you must immediately inform your service representative.**

## 2. The message about exceeding the output current

When exceeding the maximum permissible output current, charging station displays a dialog message:



, while the battery charge is stopped.

**Caution! When the message "SECURITY !!! CURRENT LIMIT !!!" need to turn off the charging station, check the correctness of connection of external circuits and immediately notify your service representative.**

## 3. Report on the limited version

If you try to go to the profile menu, which was not obtained, charging station displays a message - a **limited edition**. To activate the profile is not necessary to purchase a "key".



# Automatic battery charge

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## Battery charge mode IU1a

To charge the battery mode IU1a necessary via keys




up or



down, choose «**MODE**», as depicted in Figure



and then press, , and then it moves to the next menu




, selected using  up or 

down MODE: «**AUTO**», press , will advance to the selection menu



profiles charge

Press the up or down to select the profile of the charge "profiled IUa»,

then you must press .

**Warning! After this operation, the battery charge starts automatically profile «IUa» .On dialog box appears**



1. Charge time an interval of continuous battery life.
2. The current value of the charging current of the battery.
3. The voltage on one battery cell.
4. The percentage of battery charge.



To stop charging, press to exit the menu.  
Upon completion of the battery in the following dialog box:



To move to other items on the menu, press

## Battery charge mode WoWa

To charge the battery mode WoWa necessary via keys



up or



down, choose «MODE», as depicted in Figure



and then press , after which it moves to the next menu



, selected using



up or



down mode: «AUTO», press



, will advance to the selection menu



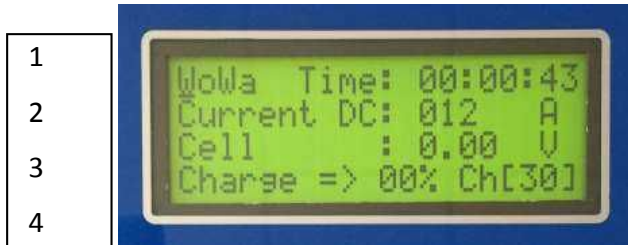
profiles charge



Press the up or down to select the profile of the charge "PROFILE-WoWa», then you must press



**Warning: After this operation, the battery charge starts automatically profile «WoWa» .On dialog box appears**



1. Charge time an interval of continuous battery life.
2. The current value of the charging current of the battery.
3. The voltage on one battery cell.
4. The percentage of battery charge.



To stop charging, press to exit the menu

**Upon completion of the battery in the following dialog box:**




To move to other items on the menu, press

## Battery charge mode Iola






To charge the battery automatically «Iola» must use the keys up or down, choose **«MODE»**, as depicted in Figure



and then press , after which it moves to the next menu



, make a selection by pressing  up or  dows MODE: «**AUTO**», press ,

You will return to the selection of profiles charge




, keys up or down to select

Profile of charge "PROFILE-IoIa», and press .

**Caution! After this command will charge the battery automatically profile «Iola» .In this mode is indicated by the following dialog box:**




1. Charge time an interval of continuous battery life
2. The current value of the current battery charge
3. The voltage on one battery element
4. The percentage of battery charge.

To stop charging, press to exit the menu .



**Upon completion of the battery in the following dialog box:**



To move to other items on the menu, press 

## Charge the battery in the restore battery mode

To charge the battery in the "restore" should be using

keys  up or  down, Select the menu item "MODE", as shown in Figure




and then press , after which it moves



to the next menu, select via  up or

 down MODE: **«AUTO»**, press , will jump to submenu select profiles



charge:  up or down to select the profile

of the charge **«RESTORE BATTERY»**, press .

**Caution! After this command will charge the battery in an automatic profile "Restore battery" .If this is indicated by a message box:**



1. Charge time an interval of continuous battery life

2. The current value of the current battery charge
3. The voltage on one battery element
4. The percentage of battery charge.



To stop charging, press to exit the menu

**Upon completion of the battery in the following window appears:**



To move to other items on the menu, press

## Procedure Manual charge

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### Manual battery charge

To charge the battery in the "Manual" you must use the keys



up or



down, select the menu item "MODE", as shown in Figure:



press, after which it moves to the next submenu



,keys



up or



down choose





MODE: «**MANUAL**», press, will jump to submenu select stabilization mode.


Press the up or down, select the profile of the charge of "stabilization" - (stabilization of output current), and press the button .

**Caution! After this command will charge the battery in the "manual mode".** A dialog box




1. Charge time an interval of continuous battery life
2. The current value of the current battery charge
3. The voltage on one battery element
4. The percentage of battery charge.

Adjusting the charge current is produced keys  up or  down.

To stop charging, press to exit the menu .

**Upon completion of the battery in the following dialog box**



To move to other items on the menu, press .

## Charge Journal

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The "Journal of the charge" in the junior series automatic charging station «Kometa CS» inactive. Perhaps the introduction of this feature by prior request of the customer.

## Diagnostics battery

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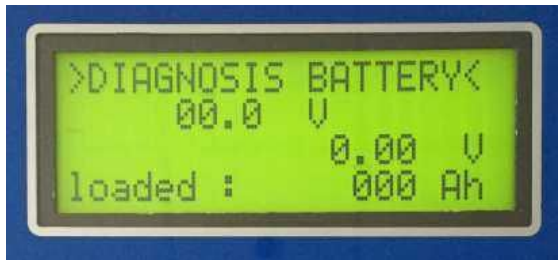
This feature is designed to assess the degree of discharge of the battery, as well as to control the amount of energy obtained after the battery charge.

To activate this feature you must select keys  up or  down menu



«**Diagnosis battery**» and press .

Then, a dialog box appears on the first line the total voltage of the battery and a second voltage on one line of the bank.



Go to the previous menu is done by pressing

the exit menu .

## Service cs

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### Warning!

The function menu "Service cs" is strictly forbidden to use the personnel serving Batteries.  
Menu function "Service cs", intended only for service use.

## Maintenance and Storage

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- Periodically clean the installation swab moistened with a mild detergent solution.
- Because Charger has an active cooling system is necessary to once every six months to clean the internal space of the installation of the pollutants. Cleaning is carried out with dry compressed air. Before the start of the purge is necessary to disable the AP from the mains supply and the battery, leave the time interval of not less than 1 hour, and only then remove the back wall of the device.
- Installation should be stored in a heated room at temperatures from -10 to +40 degrees. C. in the absence of acid vapors and organic solvents

# Warranty

The manufacturer guarantees trouble-free operation of charging stations for two years from the date of shipment to the customer, subject to improper use and storage.

For damage caused by failure to comply with rules governing the storage, transport and use (eg. Mechanical damage, corrosion and traces of self-disassembly, alteration, etc.) The manufacturer is not responsible and the guarantee expires.

## Appendix 1

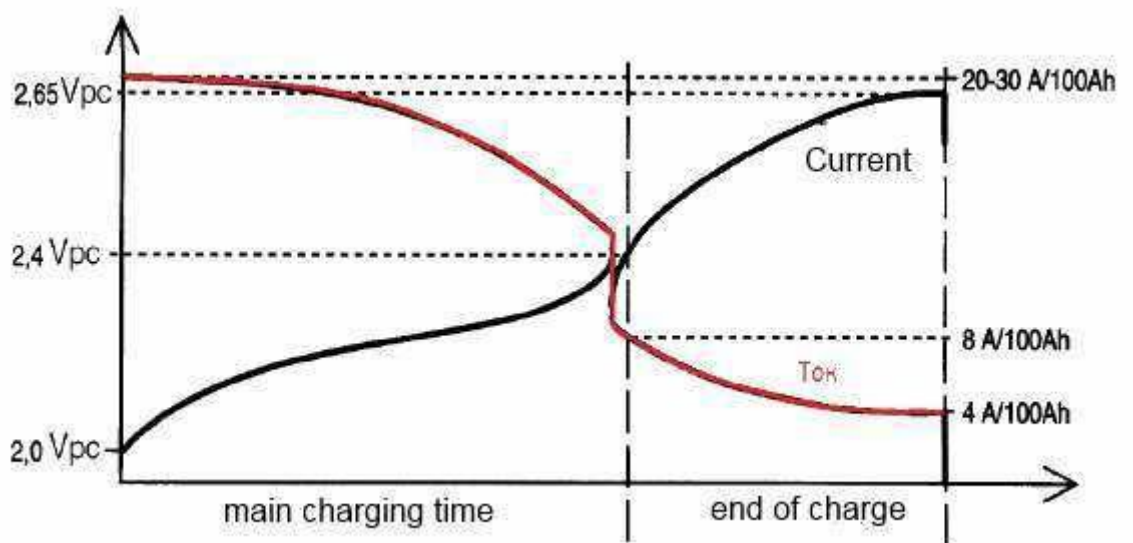


Figure 1. Characteristics of charge WoWa Profile

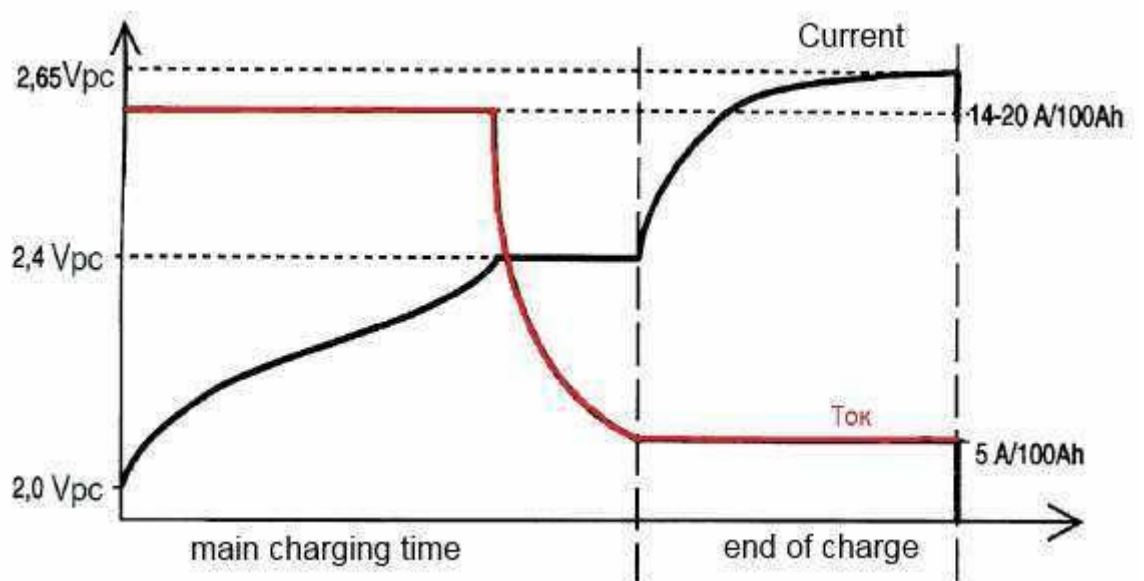


Figure 2. Characteristics of charge IU1a Profile