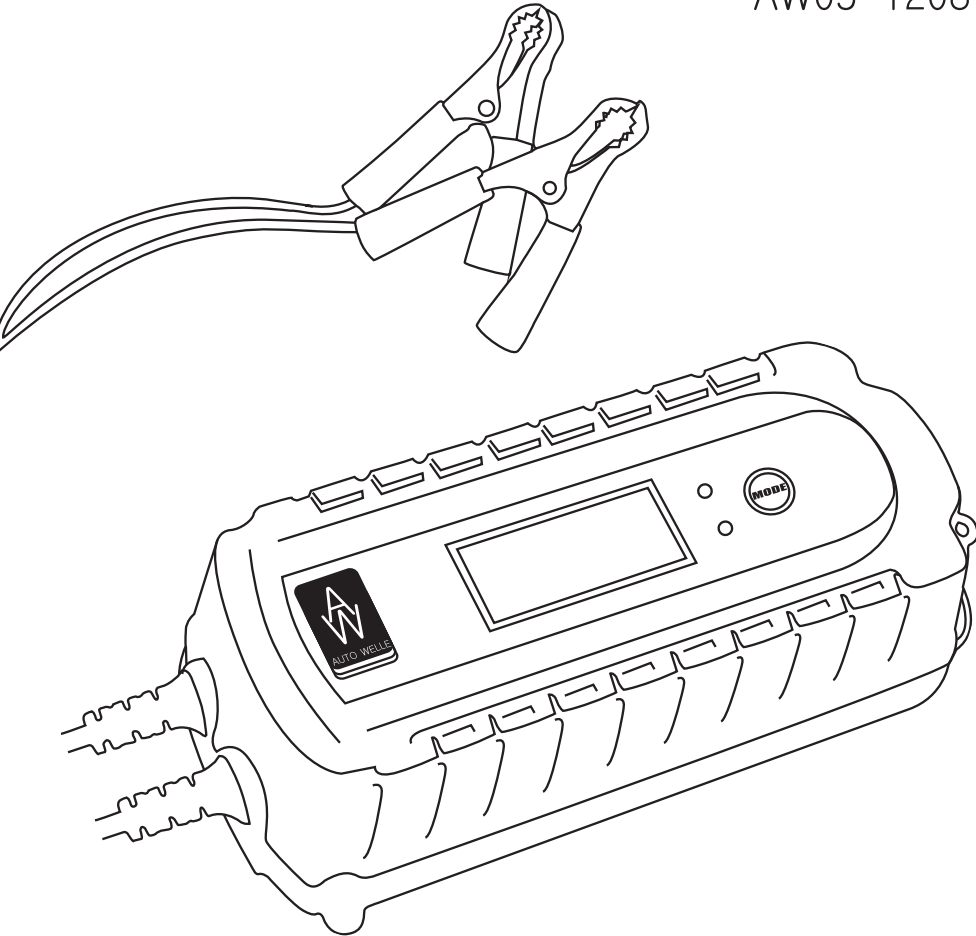




Car battery charger

Model
AW05-1208



Manual



Intelligent Auto Welle charging device designed to charge motorcycle, car, truck, snowmobile, boat, tractor, personal watercraft, trimmer etc. batteries. Devices have highly effective protection against users errors and are managed by a microprocessor.

Charger microprocessor evaluates the state of the battery power and sets the charging current and voltage accordingly. It helps to charge the battery more efficiently and extend the term of operation.

Precautions when using a battery charger

Please read these instructions carefully before operating the device.

Faulty device use may cause serious injury, fire or electric shock. Save the manual for later use.

- This charger is designed to charge gel, deep cycle batteries, serviced and maintenance-free lead-acid batteries.
- To get more accurate information, please refer to the battery manufacturer's instructions.

Nickel-cadmium batteries charging is not allowed.

- In case the charger is damaged, do not use it. To repair or replace the unit please contact the nearest service center.
- Do not place the charger on the battery and vice versa. Be careful not to drop the device or wires.
- Never charge a frozen battery! Firstly move the battery in a warm place and wait until the electrolyte is ready to use.

While charging batteries may produce hydrogen, which is explosive and flammable! Charge the battery in a well ventilated area only, avoid sparks, open flames and smoking near the battery.

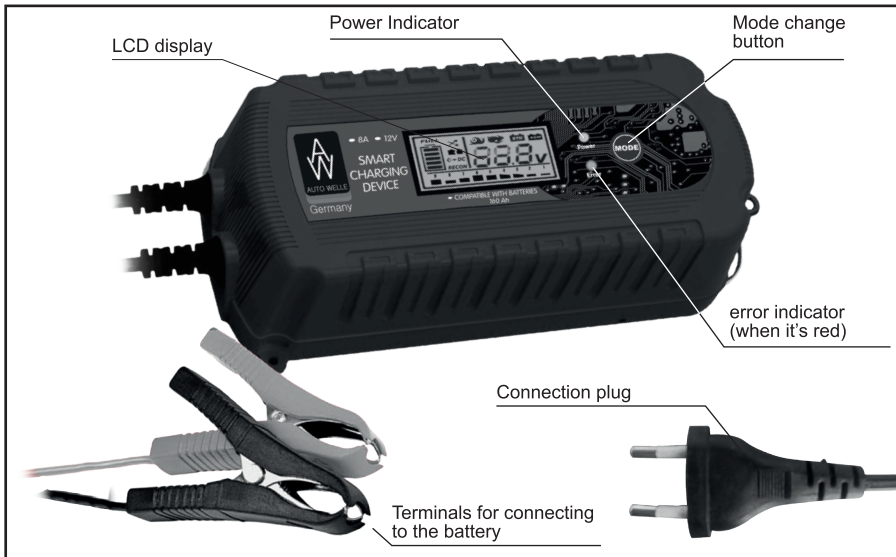
- Disconnect all consumers from the battery and charger from the mains before you connect or disconnect contacts on the battery.
- Contact terminals should not be detached by pulling the wire, as this may damage wires and plugs.

- When working with battery, remove all metal objects, watches, rings, bracelets, etc., as they may cause a short circuit.
- Do not put the battery on any metal devices - they can cause a spark or short circuit that may cause fire and explosion.
- Getting acid on your skin or eyes may cause severe chemical burns and lesions. Do not let the electrolyte to get on your skin or clothing! In case of acid on your skin or in your eyes, immediately rinse the affected area with plenty of water and seek medical attention.
- Lead-acid batteries have an energy reserve, sufficient to weld metal objects at short circuit, significantly heat or light design details.

All images and pictures in the manual are schematic and may differ from the actual product.

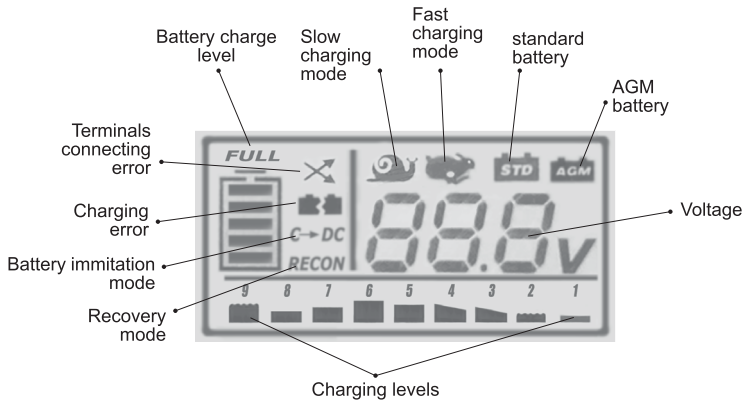
Charger appearance

Fig. 1.



Charger screen

Fig. 2.



Specifications

Charging device	AW05-1208
Input parameters	220-240 V, ~ 50 Hz
Output voltage (V)	12
Charging current (RMS)	to 8A
Accumulator capacity (A/r)	to 160
Accumulator type	Lead-acid batteries WET, MF, AGM, GEL
Accumulator charging levels	9
Accumulator charging modes	Fast, slow
Temperature level (C°)	from -20 to +50
Display	LED
Built-in battery tester with voltage display function	Yes
LED	Yes
Protection against the wrong connection	Yes
Short circuit protection	Yes
Overheat protection	Yes
IP65 degree of protection	Yes
Recovery / Desulfation	Yes
Intelligent selection voltage	Yes
Advanced suspension	Yes

Device features

Loss of voltage compensation

The actual voltage at the terminals of the battery may be lower than the output voltage of the charger due to some transmission losses. Special scheme in the charger monitors the input voltage and adjusts accordingly the output voltage of the device. Efficiency of charge considerably increases.

Temperature Compensation

Depending on the ambient temperature (-20 C° to +50 C°), the sensor automatically adjusts the voltage. The output voltage decreases at high ambient temperature and increases at low temperature.

Overheat protection


At too high temperature inside the charger, it will switch to slow / smooth charging. Charging will be in slow mode until the device is not cooled.

Memory function

The device has a standby mode which will turn on in case of power outages or accidental disconnection of the plug from the mains. In charger memory mode and charging status will be recorded. After restoring power charging will resume from the point at which it has stopped.

If the charger terminals were disconnected from the battery, the memory will be erased and the mode must be selected again.

Protection against the wrong connection (reverse polarity)

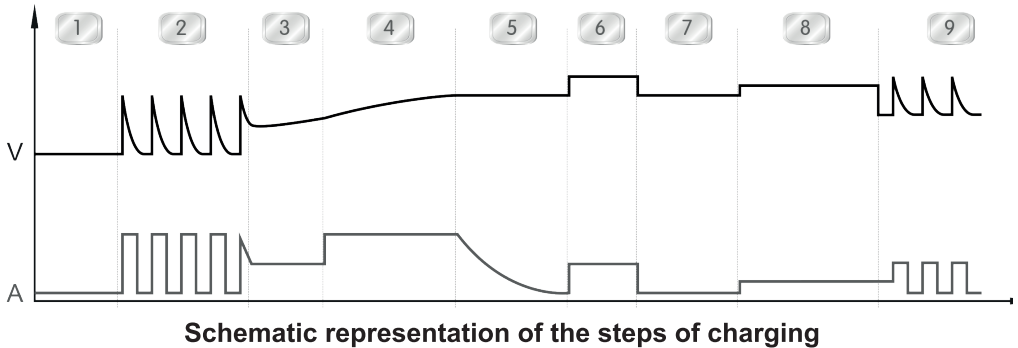
If the wrong terminals connected to the battery charger, it will inform about the error displaying  image. To get rid of the error, unplug the charger from the mains. Connect the red (positive) device terminal with the positive (+) battery terminals and the black (negative) terminal to the negative (-) contact. Turn on the grid and charging will start.

Short circuit protection

Charging will not start if charger terminals (+) and (-) affect each other and the device is connected to the network. Unplug the appliance and check the connection. Remember that the terminals must not touch each other.

Battery specifications

Fig. 3



Charging cycle consists of 9 automatic degrees.

- 1. Battery test.** Validation battery connection, its state (working or damaged), battery voltage before charging process.
- 2. Desulfation.** If battery plates are sulfated, switch on voltage supply in pulsed mode. This will remove sulfate from the surface of the lead plates, restoring the battery capacity.
- 3. Smooth mode.** Initial battery charge. If the battery is completely discharged, the unit will begin charging at soft stage - with low current and voltage until it reaches normal charge level.
- 4. Main charge.** The battery receives up to 75-80% of its charge on the main charging stage. The charger delivers maximum charging current.
- 5. Acquisitions.** Charging at smoothly decreasing current with permanent voltage to achieve 95-100% battery capacity.
- 6. Restoration.** This feature prevents the precipitation of sulfates and electrolyte stratification in a fully charged batteries and allows you to restore the battery capacity.
- 7. Analysis.** Check battery ability to hold the charge. Batteries that are not capable of holding a charge should be replaced.
- 8. Charging to 100%.** In the low current level by increasing voltage battery gets 100% of its charge
- 9. Supporting charge.** The battery is maintained at 100% charge by periodic lowered supply voltage. Mode is limited in time to 10 days.

Working with device

Preparation

Unplug the battery from the onboard vehicle network. This will help keep the generator and other electronic components from potential damage. Also it is strongly recommended to remove the battery for charging. When working with the battery use gloves because there can be electrolyte drops on the battery.

Serviced battery

Check density and level of electrolyte in each cell of the battery. If the level is below nominal, bring it to the required level with distilled water (exact actions should be described in the battery manual).

Do not use water from the tap!

When charging the battery cell battery caps should not zashkodzhaty exit gases released.

Be careful! Perhaps rozbryzhuvannya mikrokraplyn electrolyte!

Maintenance-free batteries

It is not necessary to check the electrolyte level. Provide the necessary ventilation in the place of charging the battery.

Connecting





- Connect the positive terminal of the charger (red) to the positive terminal of the battery (typically P or +).
- Connect the negative terminal of the charger (black) to the negative battery connection (typically N or -).
- Check the connection between terminals of the device and battery contacts.
- Connect the charger cable to the network. Within 0.5 seconds there will be an alarm and LED will turn on.

Charging

The charger automatically switches to charging mode after connection.

Selecting the charging mode

After connecting the device will determine the type and voltage of the battery and will start charging in standard mode. If necessary, you can set specific parameters of charging. Click on the «Mode» for 10 seconds after you connect the charger to the network and select necessary mode.

Marking on LED display	Charging mode	Purpose
	Slow mode	Designed for normal, gel, lead-acid batteries. Charging is done at reduced current of 2A and controlled by a microprocessor.
	Fast charging	For normal, gel, lead-acid batteries. Charging current of 8A is executed in rapid mode. Controlled by a microprocessor
	Fast AGM battery charging	Charging is performed at 8A current in fast mode.
	Battery charging is completed	«Battery charged» indication tells you that the battery is fully charged. The unit will switch to the stage of charge maintaining. Unplug the appliance and then disconnect the terminals from the battery. Check the electrolyte of maintainable battery in each cell and refill it if necessary.
<i>RECON</i>	Restoration	A special mode for deeply discharged batteries or batteries after prolonged use without charging or deep discharge. In some cases this mode can reduce the life time of the battery.
<i>C→DC</i>	13,8V battery imitation	Charger has power mode with a constant voltage of 13.8 V and current up to 5A, designed to power the computer system when replacing a car battery.

Note: If after a few seconds after connection there is a sound and/or there is «Replace the battery» displayed following options are possible:

1. Low level of battery charge - < 3.5 V. In this case, charging will not start.
2. High battery voltage - > 15 V. Short-circuit of the battery or galvanic cell is possible. The charger will stop charging as the battery is defective.

If in case there is an audio signal and / or the display shows the information «Reverse polarity» you should disconnect the charger from the mains. Connect the red (positive) terminal device with the positive (+) battery terminal and the black (negative) terminal to the negative (-) contact. Turn on the network.

Maintenance

Make sure the charger is unplugged before you carry out any maintenance work. Follow only the instructions described in this manual. For the implementation of all other work, please contact the authorized service center.

For reliable device operation

- Remove dirt with a dry or damp cloth at charger case pollution. Do not use solvents and sharp objects.
- Keep contact connections clean.
- Work out terminals with a special lubrication for better charging.
- If electrical contacts at the terminals of the battery or charger are damaged, clean the oxidized area of the terminals.

Storage

The charger should be stored in a dry place, as the penetration of vapors or moisture in the body of the device may lead to the transformer exit. Use the device in a closed, well-ventilated area only and protect the device from moisture, liquids, rain or snow.

Disassembly or making any changes to the design of the device is strictly prohibited! Any disclosure leads to loss of warranty.

Replacement and repair of electrical wires is strictly prohibited. In case of power wire damage device must be fully utilized.

Possible problems and their elimination

Malfunction	Possible reason	Solution
Charger is connected to the battery and network, but charging does not start.	The charger is not in charging mode.	Unplug the charger from the mains. Check the battery connection.
Light indication is not described in the manual.	The button may be pressed while the charger is connected. The charger can be faulty.	Make sure that nothing touches the control panel, disconnect and reconnect the device again. If the device didn't start to work, please contact the service center.
«Battery charged» LED is green for several minutes after connecting the device.	The battery may be fully charged or was recently charged. Perhaps the battery voltage is high enough, so the LED indicates that the battery is fully charged.	Try changing the mode to slow charging.
The charger was unplugged, but the display is turned on.	The battery supplies power to the battery charger display.	Disconnect the battery from the charger.
Charging started, but stopped.	The battery can't be charged. The battery is fully sulfated, the battery can't hold charge	Try to restart the charger. If the problem persists - battery is faulty.

Warranty Terms

The warranty period starts from the date of sale and during 1 year. During the warranty period, all faults that have arisen on fault of the manufacturer are eliminated for free. The guarantee takes effect only when the warranty card and detachable coupons are properly completed. The device is accepted for repair only in its pure form and the complete set.

The warranty does not cover:

- The mechanical damage (cracks, exfoliation paint, etc.) and damage caused by the action of aggressive environment, infiltration of foreign objects inside the product or ventilation grilles, as well as damage caused by improper storage (corrosion of metal);
- Failures caused by misuse, use of the product for other purposes, product overload and instability of the mains voltage. Signs of overloading is melting or discoloration of parts through the action of heat.
- The electrical cables with mechanical and thermal damage;
- The product which was opened and/or repaired outside the authorized service center. Signs of product opening are fasteners slotted parts wrinkles;
- The prevention and product service (cleaning, washing, lubrication, etc.), installation and configuration of the product;
- Natural deterioration of the product (production resources);
- Failures encountered when using the product for purposes related to business activities;
- If the warranty card is not full or seal of the seller is missing;
- The absence of warranty card holder signature;
- Improper connection to the mains or installation.

The warranty will be void in violation of operation, transportation and storage rules;



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