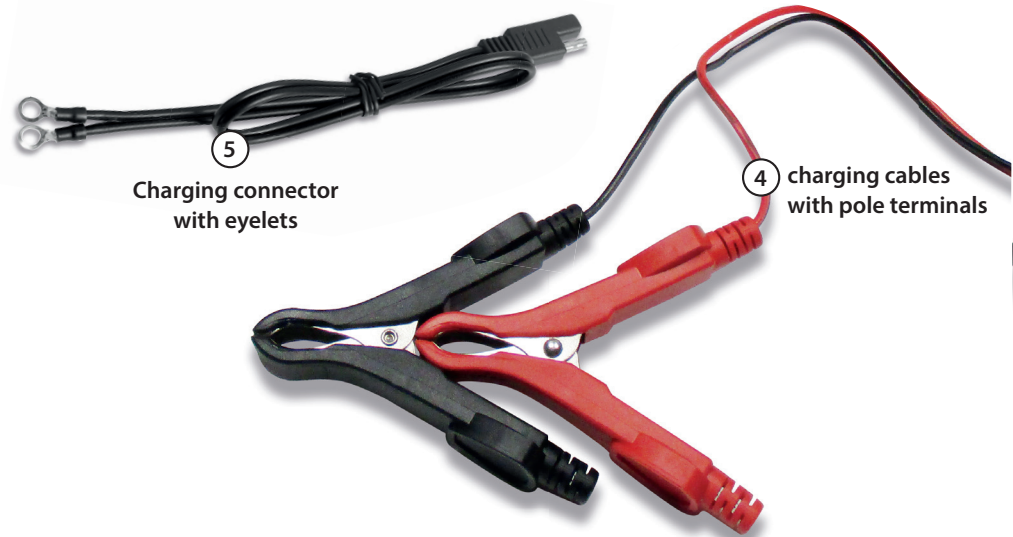


Battery Charger ICS4 6/12V

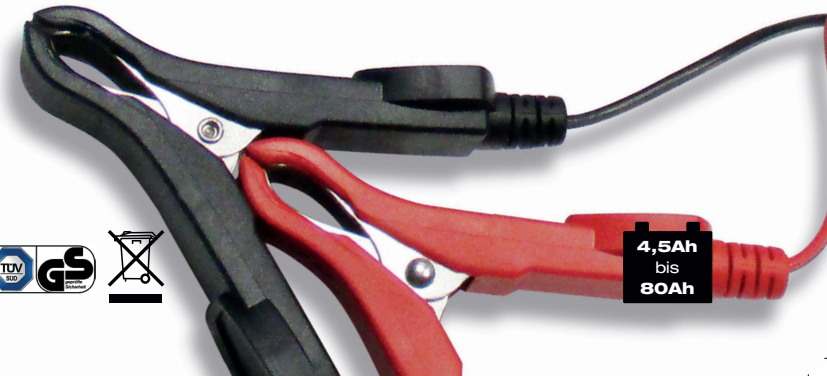
1A/4A



Manual



- 1A**
- 4A**
- 4,5 - 80Ah
- GEL, AGM, WET, LiON
- 6V/12V** SELF DETECT
- MULTI 9 STAGE PROGRAM
- FULLY MICRO-PROCESSOR CONTROLLED
- TIMER-PROTECTION 2-36-72 hrs



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Read these instructions very carefully before using them for the first time and keep them in a safe place, in order to be able to read them at any time, even if the device is passed on to third parties.

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Please observe the following **safety instructions**.

1 Instructions for using the manual

ATTENTION!

Safety instructions: Non - observance can lead to material damage and Malfunction of the device functions.

NOTE

Additional information about the device operation.

2 General safety instructions - IMPORTANT -!

ATTENTION!

Axhess GmbH & Co.KG, Industriestrasse 11, 56598 Rheinbrohl, Germany
No liability for damages and consequences arising from:

- Connection and / or mounting errors.
- Use of force, damage to the device and / or connecting cables.
- Any changes to the device and / or the connection cables.
- Use for purposes other than those described in this manual.
- Liquid and / or insufficient ventilation.
- Unauthorized opening of the device.
- Consequential damage resulting from improper use and / Defective batteries.

Operate the device solely for its intended use.

Do not use in damp or wet, only in a dry environment!

ATTENTION !

Never operate the unit near flammable material.

Never operate the unit in explosive atmospheres.

Operate the appliance only if there is sufficient ventilation.

Repairs and maintenance may only be carried out by authorized specialists who are familiar with the associated hazards / regulations.

Always ensure a safe placement of the device! The battery charger must be placed / placed so that it cannot fall down or overturn.

Secure and store the device and the battery so that children cannot access it!

Children can not recognize and not assess the dangers arising!

This battery charger is not intended to be used by persons (children included) with limited physical, sensory or mental abilities, or lack of knowledge and / or experience; unless a person responsible for safety is supervised or issued instructions for the correct use of the device.

Do not expose the unit to direct sunlight or other sources of heat as this may damage the unit charging capacity. Avoid the additional heating of the device by external influences. Do not cover the charger.

ATTENTION !

Working near lead-acid starter batteries is dangerous!

Batteries develop explosive gases during operation and during charging!

Always wear suitable protective gear, protective gloves and goggles when working on a starter battery! Battery acid is corrosive! Possibly. Rinse immediately with plenty of water. If battery acid gets into the eyes, immediately wash out for at least 10 minutes under running water and seek medical advice.

Never smoke near the battery, or use an open fire, avoid sparks and sparks.

Operate the device only to charge rechargeable lead-acid batteries!

Do not connect other types of batteries!

Do not charge non-rechargeable batteries! Health hazard!

Always ensure adequate, good ventilation! Never cover the appliance during operation!

ATTENTION !

Danger of explosion if there is a gas smell! Do not switch off the device, do not remove the charging connection. Provide immediate ventilation! Do not load frozen batteries! Do not load damaged, corroded, leaking batteries! Never hold batteries overhead! Never push the batteries over! Caustic burns!

The use of accessories, which are not recommended by the manufacturer, can lead to damage to the device or to personal injury! In addition, the warranty expires!

To avoid damaging the power cord and the connections, never pull the cable, Always disconnect the power supply by means of a plug.

The mains supply cord and the charging cables must be in perfect condition.

If the cables are damaged, do not use the appliance. Have the device repaired first by qualified personnel.

No flammable objects, e.g. Place the candles on the appliance.

No objects filled with liquids, e.g. Water containers, beverage containers on the or nearby.

Charge only faultless, undamaged batteries.

Ensure that there is sufficient liquid in your battery (when the batteries are open).

Observe the instructions of the battery / vehicle manufacturer. These can be found in the accompanying documents, the logbook of your vehicle. Or contact the battery manufacturer. Never charge the charger during the charging process! Do not short-circuit the charging connection!

ATTENTION!

Connect the charging connector to the battery in the correct polarity. Then first connect the device to the mains power supply. Do not operate alone or at least so that another person is always within easy reach for your own protection and safety. Remove personal metallic objects (e.g., rings, arm and necklaces, watches) before working on a starter battery to avoid unintentional short-circuit. Short-circuit voltages can e.g. Rings melt and lead to severe burns. Make sure you are not using moving, rotating parts of the vehicle or clothing, tools, leads and cables inside caught. When working on the battery, never start the vehicle engine and / or operate while the engine is running!

3 Scope of delivery

- 1 Battery charger
- 2 charging cable with quick-connect connector
- 1 Operating instructions
- 1 Fully recyclable sales packaging

4 Intended use

Battery chargers, including this, are used to charge or sustain the sustained charge of 6V and 12V lead acid batteries. With this charger, lithium batteries can also be charged. It can be open, maintenance-free, sealed, AGM, fleece, gel and start-stop batteries with capacities of 4.5Ah up to 80Ah. This charger is suitable for charging lead acid and lithium batteries keeping the battery in a ready-to-go state. The device can be used, for example, only use seasonally used starter batteries for a long period of possible non-use, always in a ready-to-go state. As a result, the lifetime of a starter battery can be significantly extended, the battery remains ready to start. Other types of batteries must not be charged or connected to the charger! The device must not be used as start-up aid. The charger would not take repairable damage. Risk of explosion! The device must not be used as a power source for other purposes!

WARNING!

Before using a battery charger, check the polarity, grounding, and maintenance instructions on the battery, or consult your battery manufacturer if you are not sure. This charger is designed to charge lead-acid and lithium-iron phosphate batteries or to keep the battery in a ready-to-go state.

ATTENTION!

Always observe the basic safety precautions when using electrical equipment for your own and other protection:

- electric shock, • fire hazard, • injury, • property damage.

Only operate the device if the housing and the cables are undamaged. When working on the device, e.g. Device maintenance, first always interrupt the 230V power supply. Please observe all safety instructions! Only operate the device if the housing and the cables are undamaged.

5 Technical characteristics

Thanks to its low weight and compact design, the device can be easily used on passenger cars, commercial vehicles, travel trailers, boats and dismantled batteries. The device input voltage corresponds to the household voltage. (230V AC 50 Hz). Always observe the performance values of the device as well as the connected battery.

NOTE!

Be sure to observe the safety instructions in this manual, that of your vehicle and battery manufacturer before connecting this unit to a 6V or 12V starter battery. Ensure that the vehicle is out of operation, the ignition is off, the vehicle is secured by means of parking brake, is in a safe parking position.

This battery charger operates fully automatically and can also be connected to a battery for an extended period of time if the device is connected to a 230V power supply. The charging power of the device depends on the charging status and the general state of the battery to be charged. When the battery is charged, the display shows 100% and FUL, the charge level indicator is full. The device then switches automatically to the maintenance / maintenance mode. It monitors and keeps the battery always in full charge. (Prerequisite for correct connections and mains connection) If the battery charger is connected to a battery for a long time, check the fluid level of the battery, if possible. If the batteries are open, fill distilled water, if necessary, according to the battery manufacturer's instructions.

Charging time. The charging time is calculated as follows:

Battery capacity in Ah: Charging power Charger 66Ah: 4A = approx. 16.50 h Charging time, depending on charge and battery condition also shorter. This charger is suitable for batteries up to 80Ah. The Values refer to typical vehicle starter batteries. There can be only one battery per charging Loading. Only lead (SLA, WET, MF, Flooded, Gel, Fleece, AGM) To-iron phosphate batteries.

Defective battery.

Non-rechargeable battery. If a battery residual voltage <2V from the charger is detected, this battery cannot be charged because the charger does not start. The device needs a battery voltage of 2V to go into operation.

4.2 Equipment features

- Detects independently the battery voltage (6V or 12V)
- Quick charge, winter, AGM and lithium mode selectable
- AutoStop: Automatic charging stop when the battery is fully charged
- Charge levels: Lead acid: 9 charging steps, lithium: 5 charging steps
- with integrated memory function
- Charge current 1A at 6V and 4A at 12V
- Automatic changeover to maintenance charge
- Charging cable with quick connection, for connecting the charging cables with eyelets or battery terminals
- Spark protection, polarity protection, overcharge protection, overheat protection
- LCD information display, shows charging voltage V and charging current A alternately and the charge level in% and as a bar graph
- Info symbols easy to read by backlighting
- Compact, lightweight and user-friendly
- Dust and jet water protected IP65 (housing)
- Fully insulated pole terminals
- Charging cable up to 150 cm quick connection, connection cable 50 cm each
- Power cord length approx. 150 cm

Spark protection

No sparks are generated when the charging connections are touched. Be careful Ensure that the charging connections do not touch.

Reverse polarity protection

If the polarity is incorrect or incorrect, the device switches off immediately. The battery is so protected. Correct the connection to the battery.

Overload protection, auto stop

When the battery reaches the optimum charge level. The device off or automatically to the maintenance mode.

Overcharge protection

Battery charging is prevented by the device. It turns off automatically when the respective optimal charging level is reached and turns on again when the battery voltage has been lost.

The device works fully automatic. The respective charging status is displayed via the LC display. The output current of the charger depends on the battery being charged. When the battery is fully charged, it is displayed with „FUL“ in the LC display. The charger automatically switches to a sustained charge. It now monitors the voltage of the battery and keeps it at full power. The charger provides a maximum charging time per charging stage. If this time is exceeded, the charger switches off. This is the case when, for example, Larger batteries, with higher capacity, which exceed the charging capacity of the charger. The battery must then be disconnected from the charger.

Note: If the device remains connected to a non-maintenance-free battery over a prolonged period, or if high ambient temperatures prevail, always check the water level every four weeks at the latest. Observe the specifications recommended by the vehicle / battery manufacturer. Maintenance mode. If the battery is exposed to a loss of voltage, the charger automatically switches back on until the battery is fully charged again.

Functionality

This battery charger is an intelligent, microprocessor-controlled, high-frequency charger. It works in the following steps.

12V	6V	Lithium
9 steps	6 steps	5 steps
1. Check the battery	1. Check the battery	1. Check the battery
2. Soft start, charge begins		
3. Pulse charge		
4. Recondition mode	2. Recondition mode	2. Recondition mode
5. Bulk charge, main charge	3. Bulk charge, main charge	3. Bulk charge, main charge
6. Absorption, replenish charge	4. Absorption, replenish charge	4. Absorption, replenish charge
7. Test mode	5. Test mode	5. Test mode
8. Float, maintenance charge	6. Float, maintenance charge	

6 Connecting the charger

The device is ready for use.

The device can be operated on any 230V mains socket that is installed as required.

The use of an extension cable is possible if absolutely necessary. This must be in Good condition, the length should not exceed 10 meters.

- Make sure that the battery is disconnected from the wiring harness in the vehicle manufacturer's logbook must be separated.
- If the battery needs to be removed from the vehicle for charging, remove the serial connection from the battery (minus).
- Before charging a battery, clean the connections (battery poles).
- Check the polarity of the battery poles. The positive pole (+) usually has a larger pole Diameter as the minus pole (-).

- Ensure that no battery dust and / or corrosion residues of the battery poles are inserted into your battery eyes or is inhaled.
- In the case of maintenance - free batteries, follow the battery manufacturer's instructions.
- Make sure that the charger is not connected to the mains socket.
- In case of negative polarity of the vehicle, first connect the red pole to the positive pole (+), then the connect the black pole clamp (-) to the negative pole, keep in sequence!
- Do not attach to the carburettor, fuel line or metal clamps.
- Do not place the charger on or above the battery1. Only then connect the charger to a power outlet.

1. The LC display lights up and „Pon“ appears for Power on.
2. Press the „Battery Type Selection“ button until the battery type you require is displayed LCD appears. These are SLA (Sealed Lead Acid) for WET, MF, nonwoven, GEL batteries. The winter icon (snowflake) appears when the AGM mode is selected.
3. Press the „Mode“ button to select the desired charging current. Motorcycle Icon = 1A Slow. Vehicle icon = 4A Fast. For a 6V battery, the charger automatically selects the 1A slow charging current.
4. If the pole terminals are connected incorrectly, the error message „Err“ appears in the display. The voltage of the connected battery is displayed briefly, then the display shows „Con“ for Conditioning, checking if the battery is charging. The charging process then starts autonomously.
5. When the battery is fully charged, the display will show „Ful“. When charging is completed, first unplug the unit from the mains socket, then remove the charging cables from the battery.

Important! If you change the battery connections (ring eye connection on pole terminal connection or vice versa), always ensure a firm and complete connection with the battery connection. If the connection is incorrect, „Err“ appears in the display. Correct the connection.

MEMORY .The charger remembers the last selected setting. It starts, if no change is made, with the last selected charging setting, battery type and charging current. Be careful when changing other types of batteries, with different capacities, to adjust the settings on the charger.

The charging charge is the charge required to compensate for the self-discharge of the battery. Especially for batteries which are not used for a long time.

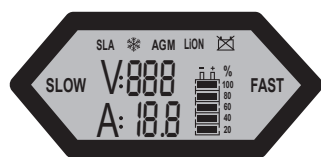
Should the outside temperature fall below 0 ° C, the charger has a winter mode with a special charging program. This mode corresponds to the AGM mode, but is suitable for all other lead-acid batteries at low temperatures. This mode is NOT suitable for lithium batteries.

If unusual values (internal resistance) occur during the charging cycle, the charger detects the battery as defective and displays this in the display.

Charging power for different battery types

Battery type (at 25°C)	Main Charge Volt	Float charge Volt	Max. Volt
GEL	14,4	13,5	14,7
Wet, open	14,4	13,5	14,7
AGM/fleece	14,7	13,5	15
Lithium	14,4	-	14,7

LC-Display



ATTENTION!

Never connect the charging connections of the charger to mains power!
Short / explosion hazard

Guard

If the charger detects a fault during the charging process or in the maintenance mode, the charging program will switch off. Restart the restoration of the power supply. The load program restarts on the previously selected attitude.

Ambient temperature

If the internal temperature of the charger rises in charging mode as a result of a correspondingly high ambient temperature, which is clearly above the temperature (technical data), the charging time is lengthened as the charging current is reduced. With a corresponding cooling the charger returns to normal charging mode. Ensure sufficient cooling, ventilation and good air circulation when the charger is in operation. The charger develops a certain amount of heat, which is normal. Do not cover the charger!

Placing the charger

Connect the charger as far as the cable length allows it from the battery. Never place the charger directly above or below the battery to be charged. Gases or liquids leaking from the battery could damage the charger irreparably. Always pay attention to a safe one placement of the device! The battery charger must be installed / placed so safely that it cannot fall or fall.

EXPLOSIVE!

When charging batteries, explosive gases can escape. When working on the battery, position it as far as possible so that you have the greatest possible distance to the battery. Be careful not to turn your face toward the battery when connecting or disconnecting the charging connectors. Wear appropriate protective equipment.

Connect the charging cable

The charger is equipped with 2 charging cables with quick connection. A charging cable with eyelets for permanent connection to the battery. A charging cable with pole terminals for occasional connection to the battery. Red to Plus (+), Black to Minus (-). Both charging cables can be connected to the quick-connect connector of the main charging cable. Always ensure that the connection is correct and tight.

7 Care and cleaning

Always wipe the unit with a dry cloth. Do not use liquids or chemical cleaners. Never immerse the appliance in liquids. Never allow liquids to run over the unit.

8 Debugging

Fault	Possible Cause	Remedy
Device doesn't charge	Charging cable interchanged?	Disconnect from mains. Reconnect
	Residual voltage too low? <2V	Replace battery
	Connections of the battery oxidized or dirty?	Clean Connections
	Battery damaged?	Replace battery
Charge current too low	Battery doesn't charge?	Replace battery
	Battery us fully charged?	Measure acid concentration

Communication and meaning

V:888	Voltage Reader
	Charging Progress %
	1A Slow Charge
	4A Fast Charge
SLA	Sealed Lead Acid (SLA) for (Wet, MF, Flooded, Gel)
	Temperatur Compensation and AGM
LiON	LiFePo4, Lithium Battery
	Defective Battery
Ful	fully loaded
Err	wrong polarity +/-
Con	Desulphation mode
Pon	Power on /Standby

9 Warranty

The general warranty and guarantee conditions of axhess GmbH & Co. KG apply without your statutory rights being impaired as an end user. This applies exclusively to production or material defects, is 36 months from the date of purchase and is available to the original purchaser.

In order to process a complaint, please send the unit free to axhess GmbH & Co. KG, Service Desk, Industriestrasse 11, 56598 Rheinbrohl. Or give it to your dealer for complaints processing. Before returning the unit, please contact us for the purpose of regulating the consignment and matching the port cost. Non-free broadcasts are generally not accepted. In case of a legitimate guarantee, you will be repaired or replaced by a replacement unit free of charge. For processing it is essential to submit / issue proof of purchase (readable invoice, receipt) and a short error description. Without these additional documents, complaints handling can not take place.

10 Disposal considerations

A) Packaging: The packaging is recyclable. Only place the packaging material in the appropriate recycle garbage.

B) Old appliance: If the appliance is finally taken out of service for one day, then make it according to the valid laws / ordinances to the designated collecting points. In case of doubt, please contact your local waste disposal service center or local authority. There are no additional costs for disposal, since we charge the appropriate fees already paid in advance to the competent authority. Do not dispose of battery chargers over the household waste! Dispose of old starter batteries only by the responsible disposal company or return them to your dealer. Do not dispose of batteries over household waste!

11 Specifications

Product Description:	Battery charger ICS4 6/12V 1/4A	
Item number:	2.913.907	
Brand:	Profi Power	
Input:	220-240VAC 50/60Hz	
Charge voltage / charging current:	1A, 4A / 6V, 12V	
Charging cable:	battery terminals or eyelets	
Device Type:	High frequency charger, fully automatic, micro processor Controlled, 9-stage, suitable for permanent connection.	
Suitable for battery type:	6V / 12V Lead Acid (WET, MF, GEL, AGM, VRLA), Lithium-Iron phosphate LiFePO4	
Suitable for battery capacity:	4,5Ah-80Ah	
IP Protection class:	IP65 Device housing (not for charging and connection cable)	
Ambient temperature:	-10°C to 50°C	
Dimensions approx. In mm	115 x 75 x 50 (L x B x H) in mm	
Product weight approx.	570gr o. 2x Ladekabel, 750gr mit 2x Ladekabel	
Return current	1,5 mA	
Temperature compensation	-70mV / °C	
Minimum voltage	>2,0V	
Power consumption	max. 80W	
Current consumption without load	0,9W	
Power supply	150 cm	
Charging cable up to	150cm.quick connector	
Charging cable with pole clamp or ring eyelets	50 cm each	

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12 Conformity

This product meets the requirements of the applicable European and national guidelines. The conformity has been proven, the corresponding declaration and documents are deposited at, manufacturer.

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