

# CHR-103

## Datasheet



The CHR-103 is an intelligent battery charger for lead-acid or gel batteries for our Akula series of control units.

It has been tested to work with the lead-acid and gel batteries supplied by Geoscanners AB, but it can also work with 12 V Pb. WET, MF, AGM, Gel and CA/CA. In any case please consult the battery manufacturer if not sure about the suitability of this charger for any specific kind of battery.

**Warning!** Explosive gases, prevent from flames and sparks. Provide adequate ventilation during charging. Before charging, read the instructions. For indoor use only. Disconnect supply before making or breaking the connections to the battery



### Area of Application

- Charging batteries for Akula series control units



### Mechanical and Environmental Specifications

Dimensions LxWxD (mm/inches)	198x68x41 / 7.79x2.67x1.61
Weight (kg/pounds)	0.45 / 1.0
Ingress Protection	IP44
Operating Temperature (°C / °F)	from -25 up to +50 / from 14 up to 122
Relative Humidity (%)	99 (NC)

### Electrical Specifications

Charger Type	3-Steps fully automatic charging cycle
Nominal Output Voltage	12V
Input Voltage	230 V AC, 50 Hz
Charging Voltage	14.4V
Minimum Battery Voltage	2.0V
Maximum Charging Current	1.5A
Charging Capacity	5 - 45Ah
Digital Charge Control	Yes

### Environmental Regulations

Used electric and electronic equipment including all types of batteries needs to be disposed in specially dedicated areas for recycling according to the directive 2012/19/EU and 2006/66/EC. If you do not have the possibility to dispose this material properly please contact the manufacturer to obtain instruction on how to proceed.

### Accessories\*

- There are no accessories available for this product.

## General Safety Instructions

Read carefully the following instructions before you start using this product.

This instruction is an important part of the battery charger, please keep it together with the product and consult it anytime necessary.

In case of selling the device, please make sure that this instruction manual is passed to the new owner. This user manual contains important information for your own safety.

Follow carefully the included instructions to avoid the risk of getting injured or damaging the equipment.

Do not charge non-rechargeable batteries.

Follow the instructions and charging limits of the battery manufacturer. If in doubt, please consult with us before attempting to charge a battery at your own risk.

When the plug shall be removed from the outlet please do not dra the cable, but pull the plug instead.

The battery charger shall not be covered with anything during the operation of it.

This battery charge can be used only indoors and should never be exposed to rain or snow.

Do not place the battery charger on top of the battery you are charging. The gases from the battery can potentially corrode the battery charger and create hazard situations.

Do not have the battery charger connected to mains while connecting and disconnecting the battery.

Do not charge damaged, broken or frozen batteries. If the battery acid (electrolyte) is frozen, take in the battery to a warm place and wait for the battery to be at room temperature before attempting charging it.

Do not use the battery charger if the unit is damaged, the cable or the plug are damaged in any way.

In order to reduce the risk for electrochock please ALWAYS disconnect the battery charger mains plug before attempting any kind of maintenance or cleaning of the unit.

When the battery charger is not in use make sure that is is stored in a dry place out of reach for children.

Use this device only for the intended application.

This device cannot be modified in any way.

## Functions

The battery charger works in a three steps mode:

### Step 1 Bulk-charge/quick-start-charge (20 - 70% Charge)

The "Charging" lamp is lit.

The charger delivers a high current to the battery to "waken it" up. When the battery has reached a sufficient level of charge the battery charger goes automatically to step 2.

### Step 2 Complete-charge (70 - 90% charge)

The "Charging" lamp is still lit.

In this mode the charging voltage is kept at a high level while the charging current is decreased to make the charging proces more effective.

### Step 3 Finish-charge / maintenance-charge (90 - 100%)

The lamp "Full" now is lit.

The battery is charged to a predetermined level and the charging current is reduced further more. When the battery is fully charged the charger enters a maintenance mode. The battery can be left connected to the charger until it will be used.

## Terms of use

Geoscanners AB has made all reasonable efforts to ensure that all information provided through this document is accurate at the time of inclusion; however, there may be inadvertent and occasional errors for which Geoscanners AB apologizes.

Geoscanners AB accepts no liability for any inaccuracies or omissions in this document and any decisions based on information contained in this document are the sole responsibility of the reader. Geoscanners AB accepts no liability for any direct, special, indirect, or consequential damages, or any other damages of whatsoever kind, resulting from whatever cause through the use of any information obtained either directly or indirectly from this document.

This document may not be copied, reproduced, re-published, downloaded, posted, broadcast or transmitted in any way except for your own personal use. Any other use requires the prior written permission of Geoscanners AB. You agree not to adapt, alter or create a derivative work from any of the material contained in this document or use it for any other purpose other than for your personal use. You agree to use this document only for lawful purposes, and in a manner which does not infringe the rights of, or restrict or inhibit the use and enjoyment of this document by any third party.

This document and the information, names, images, pictures, logos and icons regarding or relating to Geoscanners AB, its products and services (or to third party products and services), is provided "AS IS" and on an "IS AVAILABLE" basis without any representation or endorsement made and without warranty of any kind whether express or implied, including but not limited to the implied warranties of satisfactory quality, fitness for a particular purpose, non-infringement, compatibility, security and accuracy.

In no event will Geoscanners AB be liable for any damages including, without limitation, indirect or consequential damages, or any damages whatsoever arising from use or loss of use, data, or profits, whether in action of contract, negligence or other tortuous action, arising out of or in connection with the use of this document. Geoscanners AB does not warrant that the functions contained in the material contained in this document will be uninterrupted or error free, that defects will be corrected. The names, images and logos identifying Geoscanners AB and their products and services are proprietary marks of Geoscanners AB. Nothing contained herein shall be construed as conferring by implication or otherwise any license or right under any trade mark or patent of Geoscanners AB, or any other third party.

If there is any conflict between these Terms and Conditions and rules and/or specific terms of use appearing in this document relating to specific material then the latter shall prevail.

If any of these Terms and Conditions should be determined to be illegal, invalid or otherwise unenforceable by reason of the laws of any state or country in which these Terms and Conditions are intended to be effective, then to the extent and within the jurisdiction which that Term or Condition is illegal, invalid or unenforceable, it shall be severed and deleted from this clause and the remaining terms and conditions shall survive, remain in full force and effect and continue to be binding and enforceable.

These Terms and Conditions shall be governed by and construed in accordance with the laws of Sweden. Disputes arising here from shall be exclusively subject to the jurisdiction of the courts of Sweden.

If these Terms and Conditions are not accepted in full, the use of this document must be terminated immediately.