

Warranty

Each unit is carefully tested and adjusted at the factory before shipping and is warranted for one full year against original defects in materials or workmanship. This warranty does not include damage to the product resulting from accident or misuse.

If the product should become defective within the warranty period, we will repair or replace it free of charge, including free return transportation, provided it is delivered prepaid to the dealer from whom it is originally purchased.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state, or country to country.

O W N E R' S Handbook



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O W N E R' S Handbook



Other CruzPro Products

- Depthsounders, Fishfinder & Speed/Temperature/Log
- DC Volts/Amps/Amp-Hour Monitor
- AC Volts/Amps//Freq/kW Monitor
- LPG/Petrol Gas Detectors/Alarms
- Bilge Water Alarms & Bilge Pump Controllers
- Windlass Controller/Chain Counter
- Digital Fuel Gauge & Fuel Consumption Calculator
- Digital Gauge for Three Tanks /w Separate Alarms
- Smart and Manual Alternator Regulators
- Marine Security System
- RPM/Engine Hours/Elapsed Time Gauge
- Digital Oil Pressure Gauge/Alarm
- Digital Water Temperature Gauge/Alarm
- One and Three Bank Digital Volts Gauges
- Digital Amps Gauge
- Digital Clock/Watch/Race Timers/Alarms
- 8 and 16 Amp Light Dimmers / Motor Speed Controller
- Solar Panel Charge Controllers 6/8/9 & 20 Amps
- 4 & 8 Channel NMEA Combiners/RS-232 Convertors
- Engine/Exhaust Temp. Monitor & Digital Pyrometer
- Digital Clock with four 4 amp electronic timer switches
- NMEA 0183 Remote Data Repeater/w 4 Input Channels
- Digital Rudder Angle Indicator
- Active Depth/Temperature Transducers/w NMEA 0183

See full details at <http://www.cruzpro.com>

Email to: info@cruzpro.com

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Connect a 22 gauge or larger wire to the terminal marked "Sense" and a 16 gauge (or larger) wire to the terminal marked "IN".

Connect the charge source (-) output to a common ground point on your distribution panel. Connect the loose end of the "BATT. -" wire to the same common ground point on your boat's distribution panel. Now check your wiring carefully. After you are sure there are no errors in the wiring so far, connect the "SENSE" wire directly to the (+) terminal of your 12V battery. Connect the loose end of the "IN" wire to your charge source (+) output. Finally, connect the loose end of the "+ BATT." wire to your +12VDC distribution point. Don't use only a single wire for both the "SENSE" and "+BATT." connections, run separate wires.

At this point one (and only one) of the LED's should be lit or flashing. If not, re-check your wiring. If all is working properly, replace the front cover using the four stainless case front screws. *Do not overtighten these screws or you might damage the case front decal.*

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Specifications

Input Charge Voltage: 9.5 to 21 VDC (Unloaded), 8 amps max.

Battery Voltage/Current Drain: 12 VDC nominal, 0.012 amps typical average current drain.

Operating temperature: 0 to 50 deg Celsius (32 to 122 deg Fahrenheit).

Size: 100 x 60 x 30 mm (4 x 2.4 x 1.2 inch).

Trip Points: Both Lower and Upper trip points both fully adjustable. Lower: 11.5 to 14.5 VDC, Upper: 13.5 to 16.5 VDC. Temperature compensated to an accuracy of +/- 0.05 VDC. Handles wet, gell and Ni-Cad batteries.

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Introduction

The CC-20 Automatic Charge Controller senses battery voltage and connects/disconnects your charging source (solar panels, dumb charger) depending on the battery voltage. The CC-20 enables you to leave your charging source connected permanently without fear of damaging overcharges or excess electrolyte loss. You are assured you have a fully charged battery whenever you need it.

Three front panel LEDs show you what the CC-20 is doing at all times: in "Charge" mode, "Float" mode, or if your battery is in an overcharged "High" condition.

The lower and upper trip limits are factory preset at 13.1 and 14.4 VDC but can easily be adjusted from 11.5 to 14.5 VDC (low limits) and 13.5 to 16.5 VDC (high limits) thereby covering wet, gell and Ni-Cd batteries. Accuracy is maintained to +/- 0.05 VDC over the full operating temperature range. The CCA-20 handles up to 8 amps at an efficiency of 99.8% at 8 amps.

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Operation/Adjustment of the CC-20

When the CC-20 is properly installed, one of the LED's should be on (continuously or blinking). If the battery voltage is above the lower trip point the "Charge" LED or the "Float" LED will be blinking. If the battery is already above the upper trip point, the "High" LED will be ON continuously. When the battery voltage drops below the upper trip point the "Float" LED will blink. If the battery voltage drops below the lower trip point the "Charge" light will blink.

To change the factory-set upper and lower trip points, adjust the "HI" and "LO" potentiometer with a small screwdriver (See Figure 1). Adjust the appropriate potentiometer while measuring the corresponding "HI" and "LO" voltages with a high input impedance Digital Voltmeter (DVM) at the test points next to the potentiometers. *Do not force the potentiometers past the end stops!* The adjustments are independent of each other and can be performed in either order.

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Installation

Before starting the installation, please read this entire section for any warnings. The instrument is NOT water-proof and must be located in an area that will not get wet.

Remove the case front and align the case back onto any suitable surface. Using the case back as a drill guide, mark the location of the two holes with a soft pencil lead. Remove the case back and drill two 2mm (3/32 inch) holes where indicated. Mount the case back using the two stainless countersunk screws provided.

In the next paragraph you will connect four wires to the CC-20 screw terminals, one wire per terminal. Do not connect the loose ends of these wires until later. When connecting wires to the screw terminals be sure that there are no exposed loose strands of wire that might later cause a short and do not overtighten the screw terminals.

Thread a 22 gauge or larger ground wire through
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the rubber grommet on the front case and connect it to the terminal marked "BATT. -" (See Figure 1). Similarly thread a 16 gauge or larger wire for the +12 VDC battery connection and connect to the terminal marked "+ BATT." (*do not connect to the battery yet*).

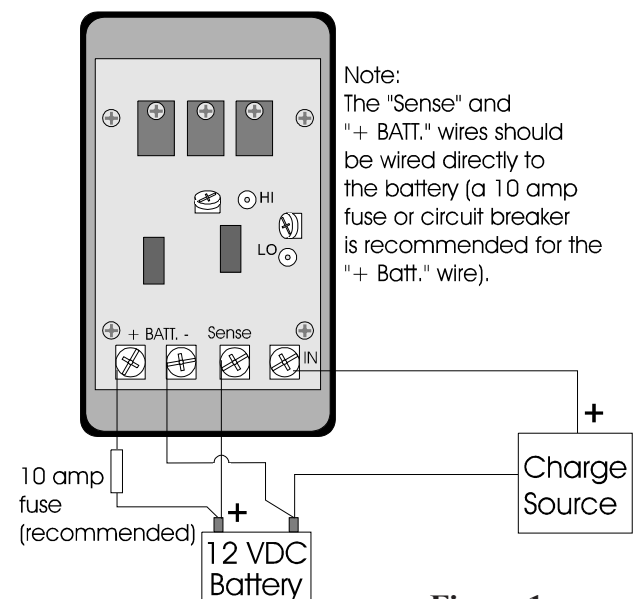


Figure 1
Connection Diagram

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