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ABOUT XTAR

The name XTAR, derived from X-STAR, representing the innumerable unknown stars, brings us an infinite imagination and expectation. XTAR logo consists of spherical figure and characters, implying the modest spirit of our company, XTAR being tolerant to diversity and our aspirations towards continuing development and innovation.

XTAR brand came into conception and determined to make high quality chargers, flashlights and batteries in 2006. In 2007, Shenzhen Winner Bros Import & Export Co., Ltd was established in Shenzhen, China. Two years later, Hong Kong XTAR Co., Ltd was established for the international market. With the concept and the determination of making China's Got Quality and 8 years' hard working, we finally have made our concept a reality. A reality that XTAR is known worldwide and distributors are all over the world. With the rapid development of XTAR, our own factory was set up and in the meantime, Shenzhen XTAR Electronics Co., Ltd was found in 2014.

XTAR products obtain more than 30 patents and are selling well in 120 countries including USA, Germany, Australia, Japan, Korea, Russia and so on. The high quality of XTAR products make it possible not only to pass CE, ROHS and other major certificates, but also certificates like UL, PSE, SAA, MEPS, C-Tick etc.

XTAR team dedicated themselves to creative design, high quality control and wholehearted after-sale service to make it an enjoyment when people are using XTAR products or talking with XTAR team.

XTAR always believe in China's Got Quality. | 01

INTRODUCTION

XTAR VC2 is a two-channel independent USB Li-ion battery LCD charger. The LCD screen display is with unique digital instrument panel design, shows the charging voltage and current. VC2 is capable of calculating the capacity of battery having been charged and tells users on the LCD screen simultaneously. With friendly interface, simple and convenient operation and reliable working system, customers can easily and safely use VC2 at our best quality guarantee.

FEATURES & SPECIFICATIONS

Intelligent charge current parameter:

- Apply to two pcs 10440/14500/14650/16340/17500/17670/18350/18500/18650/18700/22650/25500/26650 3.6/3.7V Li-ion batteries;
- Compatible with IMR lithium batteries and small capacity batteries;
- Each channel is independent;
- Three-stage charge algorithm(TC-CC-CV) which is the best charging method for li-ion battery;
- Automatically change to the suitable charging current according to input power;
- Capable of calculating the charged capacity for batteries;
- Soft-start function, to avoid damage from large charge current while charging;



Shenzhen Xtar Electronics Co., Ltd



VC2

INTELLIGENT USB LCD CHARGER MANUAL

- Precise cut-off voltage at 4.2V and automatically cut off when the battery is charged fully;
- LCD screen interface with unique digital instrument panel design;
- LCD displays each battery real time status;
- Apply high power intelligent PWM technology, significantly reduce energy loss;
- Built-in reverse-polarity and short-circuit protection circuit;
- Apply fireproof material for the shell;
- OV activation function can wake up the over-discharged sleeping batteries;
- Compatible with all kinds of USB port power supply;
- Smartly identify bad batteries and notify the users.

SPECIFICATIONS:

Input Power	DC 5.0V 1.0A
Max Constant Charging Current	500 mA x 2
Cut-off Voltage(Output Voltage)	4.20V
Cut-off Current	<40mA
Working Temp	0-40 ℃
Net Weight	109g
Dimensions	L131*W86*H33mm

LCD DISPLAY INSTRUCTION

Current Instrument Display:

- Current instrument scales from 0A-0.5A, increase 0.05A progressively;
- Dial pointer to default 0.5A when standby;

- Dial pointer reading represents the charging current during charging time, and two channels share one current dial to display the charging current.

Voltage Instrument Display:

- Voltage instrument scales from 0V-4.2V.
- Dial pointer to 0V when charger standby or battery being activated or at TC charging stage.

- Dial pointer to certain reading while battery at CC/CV charging stage or charged. Each channel has an independent dial to display real time voltage of the batteries.

- Dial pointer to "4.8V" when the battery is full.

Dial reading is corresponding to battery voltage range, and it changes as battery voltage increasing while charging. 0V dial reading under below circumstances:

- No battery inserted;
- Short-circuit occurs between the channel poles;
- Battery voltage less than 2.90V;

- Battery polarity reversed or disconnected(not being charged).

USAGE

- Connect the VC2 charger with standard wall adaptor and USB cable to input power, plug USB output connector into the VC2 charger. When power is on, the charger will run self-check, and LCD screen displays all contents for around 2s, three dial pointers drop from max reading to 0, current dial pointer jumps back to max 0.5A, charged capacity indicator changes to "0000", " " from "0000", charger gets ready and standby.

- Insert rechargeable Li-ion batteries into the channels properly, dial pointer to batteries no-load voltage for 2s and the charger starts charging, current dial pointer to charging gear in use, and charger starts to calculate the capacity having been charged, the forth number of capacity indicator flickers at frequency of 1Hz, meaning that batteries are being activated or charged.

- Charger will stop charging automatically when batteries are fully charged, dial pointer to real time voltages, LCD screen shows "Full" notice alternately with charged capacity reading at 0.5Hz frequency, screen backlight flickers 3times at 1Hz frequency every 10s, meaning the batteries are fully charged. Take out the batteries to finish charging.

- Dial pointer to " " after taking out the batteries, and charged capacity clears to zero, charger now back to standby.
- Disconnect outer power while charger not in use.

TIPS

- Charger will restart charging when fully charged battery voltage falls down to lower than 3.90V because of self discharging, to avoid battery over-discharge when not being taken out from charger for long time.

- When being inserted over-discharged battery($\leq 2.0V$), the charger will start activation mode to activate the battery. During activation, dial pointer to 0V for voltage, and 0.5A for current, the forth number of charged volume indicator gets flickering. VC2 has powerful OV activation function to inspire over-discharged batteries back to life with short time, if battery voltage is lower than 2.0V after 30min activation, VC2 will stop charging, LCD will show "null" and dial pointer change to 0V, meaning that the battery is too over-discharged or bad inside and can not be activated.

- VC2 has self-protection function to avoid damage when being standby. Both channels of VC2 will not charge if a short-circuit occurs or batteries been inserted reversely, voltage dial pointer to 0V, charged capacity reading shows "Err"; when problems (short-circuit or reverse inserted batteries) corrected, charger will start charging and the screen will show cumulative charged capacity.

- When input power not up to 5.0VDC/1.0A, the charger will adjust charging current automatically based on max input

power it detects. When input power is not high enough for charger to work at least charging current 100mA for each channel, the charger will not work, dial pointer to real time voltage of the batteries and to 0A current, meaning that the input power is low or abnormal to drive the charger. Dial pointer to real time battery voltage.

- The voltage readings dial pointer to are real time voltage charger detects, and voltages created by batteries internal resistance when charging are also calculated into the readings.

- The LCD screen backlight will keep flickering to notice that batteries have been charged fully, to relieve this warning by taking out of the batteries from charger.

- Suggested process on battery rated capacity test for the users:

- Discharge the battery to cut-off voltage under standard condition(discharge current lower than 0.5C);
- Fully charge the battery, charged capacity shown on the screen is approximately equal to battery rated capacity. (Remark: if the battery is not completely discharged, reading shown will be smaller than rated).

NOTICE

- Please keep the charger indoor at dry condition when using.
- The VC2 has integrated short-circuit protection to protect the charger if a short circuit occurs in a battery. Note that this short-circuit protection protects the charger, it does not prevent batteries from short-circuiting internally.
- The VC2 is used only for 3.6/3.7V(Nominal voltage) rechargeable Li-ion battery, attempting to charge other battery types may result in battery explosion, leaking or other damages.
- Because of different battery types, capacities and over-discharge conditions, the battery revive time may vary. Heavily over-discharged batteries may not be able to be waken up.
- Keep the VC2 away from water and excessive dust.
- Children should be supervised by an adult when using the charger.
- Do not disassemble or modify the charger.

WARRANTY

- 15 days free replacement. We will repair or replace a charger within 15 days of purchase if it is afflicted with a manufacturing defect. If the problem calls for a replacement, we will replace the charger with the same model as the one you bought. If the model has been discontinued, customers will receive a product with similar or improved performance.

- 24 months free repair. We offer free repair within 24 months of purchase if problems develop with normal use.

- Limited lifetime warranty. If problems develop after 24 months of the purchase date, we will charge for parts. The total repair fee will assess according to the cost of the replaced materials. If damage to the charger is grave, XTAR will contact distributors with a quote who should contact the customers to decide whether to exchange the parts or not. Freight should be paid by distributors or customers.

- (This warranty is not applicable for damages cause by artificial damage or intentional force.)

WEBSITE & ANTI-FAKE INQUIRY

- Welcome to visit our company website to get more information. <http://www.xtarlight.com>

- Follow us on Facebook: www.facebook.com/ShenzhenXTAR

- Anti-fake inquiry: A group of eighteen-digit number could be gained by scraping the anti-counterfeiting label on our product or package. Then, input it to the corresponding query window in our service column of our official website to distinguish the product's authenticity. The serial number does the same work.

- Thank you for choosing our excellent products, your satisfaction and feedbacks are essential to our progress.

