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BATTERY CHARGER
USER MANUAL

MODEL:GS280C

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NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

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This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

	READ AND UNDERSTAND ALL SAFETY INFORMATION BEFORE USING THIS PRODUCT. Failure to follow these safety instructions may result in ELECTRICAL SHOCK, EXPLOSION, FIRE, which may result in a SERIOUS INJURY, DEATH, or PROPERTY DAMAGE.
	**Electrical Shock.** Product is an electrical device that can shock and cause serious injury. Do not cut power cords. Do not submerge in water or get wet.
	**Explosion**. Unmonitored, incompatible, or damaged batteries can explode if used with product. Do not leave product unattended while in use. Do not attempt to jump start a damaged or frozen battery. Use product only with batteries of recommended voltage. Operate product in well ventilated areas.
	**Fire.** Product is an electrical device that emits heat and is capable of causing burns. Do not cover product. Do not smoke or use any source of electrical spark or fire when operating product. Keep product away from combustible materials.
	**Eye Injury.** Wear eye protection when operating product. Batteries can explode and cause flying debris. Battery acid can cause eye and skin irritation. In the case of contamination of eyes or skin, flush affected area with running clean water and contact poison control immediately.
	**Explosive Gases.** Working in the vicinity of a lead-acid is dangerous. Batteries generate explosive gases during normal battery operation. To reduce risk of battery explosion, follow all safety information instructions and those published by the battery manufacturer and manufacturer of any equipment intended to be used in the vicinity of battery. Review cautionary markings on these products and on engine.

IMPORTANT SAFETY WARNINGS

The VEVOR GS280C.represents some of the most innovative and advanced technology on the market, making each charge simple and easy. It is quite possibly the safest and most efficient charger you will ever use. The GS280C. is designed for charging all types of 6V & 12V & 24V lead-acid batteries, including Lithium ,LiFePO4, Wet (Flooded), Gel, MF (Maintenance-Free), CA (Calcium), EFB (Enhanced Flooded Battery), and AGM (Absorption Glass Mat) batteries. It is suitable for charging battery capacities up to 300 Amp-Hours and maintaining all battery sizes. Getting Started. Before using the charger, carefully read the battery manufacturer's specific precautions and recommended rates of charge for the battery. Make sure to determine the voltage and chemistry of the battery by referring to your battery owner's manual prior to charging. Mounting. It is important to keep in mind the distance to the battery. The DC cable length from the charger, with either the battery clamp or eyelet terminal connectors, is approximately 47.2 inches (1200mm).Proposition 65. Battery posts, terminals, and related accessories contain chemicals, including lead. These materials are known to the State of California to cause cancer and birth defects and other reproductive harm. Personal Precaution. Only use product as intended. Someone should be within range of your voice or close enough to come to your aid in case of emergency. Have a supply of clean water and soap nearby in the case of battery acid contamination. Wear complete eye protection and protective clothing while working near a battery. Always wash hands after handling batteries and related materials. Do not handle or wear any metal objects when working with batteries including; tools, watches or jewelry. If metal is dropped onto battery, it may spark or create a short circuit resulting in electrical shock, fire, explosion which may result in injury, death or property damage. Minors. If the product is intended by "Purchaser" to be used by a minor, purchasing adult agrees to provide detailed instructions and warnings to any minor prior to use. Failure to do so is the sole responsibility of the "Purchaser," who agrees to indemnify VEVOR for any unintended use or misuse by a minor. Choking Hazard. Accessories may present a choking hazard to children. Do not leave children unattended with product or any accessory. The product is not a toy. Handling. Handle product with care. The

product can become damaged if impacted. Do not use a damaged product, including, but not limited to, cracks to the casing or damaged cables. Do not use product with a damaged power cord. Humidity and liquids may damage product. Do not handle product or any electrical components near any liquid. Store and operate product in dry locations. Do not operate product if it becomes wet. If product is already operating and becomes wet, disconnect it from the battery and discontinue use immediately. Do not disconnect the product by pulling on the cables. Modifications. Do not attempt to alter, modify or repair any part of the product. Disassembling product may cause injury, death or damage to property. If product becomes damaged, malfunctions or comes in contact with any liquid, discontinue use, and contact VEVOR. Any modifications to the product will void your warranty. Accessories. This product VEVORis only approved for use with VEVOR accessories. VEVOR is not responsible for user safety or damage when using accessories not approved by VEVOR. Location. Prevent battery acid from coming in contact with the product. Do not operate the product in a closed-in area or an area with restricted ventilation. Do not set a battery on top of product. Position cable leads to avoid accidental damage by moving vehicle parts (including hoods and doors), moving engine parts (including fan blades, belts, and pulleys), or what could become a hazard that may cause injury or death. Operating Temperature. This product is designed to work in ambient temperatures between -4° F and 104° F (-20° C and 40° C). Do not operate outside of temperature ranges. Do not charge a frozen battery. Discontinue use of product immediately if the battery becomes excessively warm. Storage. Do not use or store your product in areas with high concentrations of dust or airborne materials. Store your product on flat; secure surfaces so it’s not prone to falling. Store your product in a dry location. The storage temperature is -20ºC - 25ºC (average temperature). Never exceed 70ºC under any condition. Compatibility. The product is only compatible with 6V & 12& 24-volt Lead-Acid, AGM, 12& 24-volt LiFePO4, and 12& 24-volt Lithium batteries. Do not attempt to use product with any other type of battery. Charging other

Battery chemistries may result in injury, death or property damage. Contact the battery manufacturer prior to attempting to charge the battery. Do not charge a battery if you are unsure of the battery’s specific chemistry or voltage. Medical

Devices. Product may emit electromagnetic fields. Product contains magnetic components which may interfere with pacemakers, defibrillators, or other medical devises. These electromagnetic fields may interfere with pacemakers or other medical devices. Consult with your physician prior to use if you have any medical device including pacemakers. If you suspect the product is interfering with a medical device, stop using the product immediately and consult your physician. Cleaning. Power off the product before attempting any maintenance or cleaning. Clean and dry product immediately if it comes in contact with liquid or any type of contaminant. Use a soft, lint-free (micro fiber) cloth. Avoid getting moisture in openings. Explosive Atmospheres. Obey all signs and instructions. Do not operate product in any area with a potentially explosive atmosphere, including fueling areas or areas which contain chemicals or particles such as grain, dust or metal powders. High-Consequence Activities. This product is not intended for use where the failure of the product could lead to injury, death or severe environmental damage. Radio Frequency Interference. Product is designed, tested, and manufactured to comply with regulations governing radio frequency emissions. Such emissions from the product can negatively affect the operation of other electronic equipment, causing them to malfunction. Model GS280C This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

HOW TO USE

Charging Modes.
The GS280C has fifteen (15) modes: Standby, CHARGING(6VAGM,12V AGM,24V AGM, 12V Lithium,24V Lithium,12V LiFePO4,24VLiFePO4),Maintain(6VAGM,12V AGM,24V AGM),Desulfation(6VAGM,12V AGM), and Supply Mode(6VAGM,12V AGM,24V AGM). When Supply Mode selected,you can charge by selecting different currents with different Voltages .Please select battery types after open the switch.These modes are advanced charging modes that require your full attention before selecting. It is important to understand the differences and purpose of each charge mode. Do not operate the charger until you confirm the appropriate charge mode for your battery. Below is a brief description:

Model	Explanation (Peak Voltage Measured At 25°C, Amperage Rating Is Bulk Amperage When Above 0°C)	
Standby	In Standby mode, the charger is not charging or providing any power to the battery. Energy Save is activated during this mode, drawing microscopic power from the electrical outlet. Canbus is enabled in Standby mode. When in Standby, the LCD will illuminate.	
Charge	6V Lead	For charging 6-volt Lead acid batteries. When selected, the 6V will be lined by blue. 7.3V | 5A | Up To 110AH Batteries, 7.3V | 10A | Up To 230AH Batteries.
	12V Lead	For charging 12-volt Lead acid batteries. When selected, the 12V will be lined by blue. 14.6V | 5A | Up To 110AH Batteries, 14.6V | 10A | Up To 230AH Batteries,14.6V | 20A | Up To 300AH Batteries
	24V Lead	For charging 24 -volt Lead acid batteries. When selected, the 24V will be lined by blue . 29.2V | 5A | Up To 110AH Batteries,29.2V | 10A | Up To 230AH Batteries
	12V LiFe Po4	For 12-volt LiFePo4 batteries. When selected, the 12V will be lined by blue. 14.6V | 5A | Up To 110AH Batteries,14.6V | 10A | Up To 230AH Batteries,14.6V | 20A | Up To 300AH Batteries
	24V LiFe Po4	For 24-volt LiFePo4 batteries, the 12V will be lined by blue. 29.2V | 5A | Up To 110AH Batteries,29.2V | 10A | Up To 230AH Batteries
	12V Lithiu m	For 12V Lithium charging batteries. When selected, the 12V will be lined by blue. 12.6V | 5A | Up To 110AH Batteries,12.6V | 10A | Up To 230AH Batteries,12.6V | 20A | Up To 300AH Batteries

	24V Lithium	For 24V Lithium charging batteries. When selected, the 24V will be lined by blue. 25.2V | 5A | Up To 110AH Batteries,25.2V | 10A | Up To 230AH Batteries
Maintain	6V Lead	For charging 6-volt Lead acid batteries. When selected, the 6V will be lined by blue. 7.3V| Up To 230AH Batteries.
	12V Lead	For charging 12-volt Lead acid batteries. When selected, the 12V will be lined by blue 14.6V | Up To 300AH Batteries
	24V Lead	For charging 24 -volt Lead acid batteries. When selected, the 24V will be lined by blue. 29.2V | Up To 230AH Batteries
Desulfation	6V Lead	For charging 6-volt Lead acid batteries. When selected, the 6V will be lined by blue. 7.3V| Up To 230AH Batteries.
	12V Lead	For charging 12-volt Lead acid batteries. When selected, the 12V will be lined by blue 14.6V | Up To 300AH Batteries
Supply Mode	6V lead	For charging 6-volt Lead acid batteries. When selected, the 6V will be lined by blue. 7.3V | 5A | Up To 110AH Batteries, 7.3V | 10A | Up To 230AH Batteries.
	12V lead	For charging 12-volt Lead acid batteries. When selected, the 12V will be lined by blue 14.6V | 5A | Up To 110AH Batteries, 14.6V | 10A | Up To 230AH Batteries,14.6V | 20A | Up To 300AH Batteries
	24V lead	For charging 24 -volt Lead acid batteries. When selected, the 24V will be lined by blue. 29.2V | 5A | Up To 110AH Batteries,29.2V | 10A | Up To 230AH Batteries

Lead acid battery charging

1 Firstly press the key Battery Type to select lead , then press the key Start to charge.

2 Firstly press the key Battery Type to select lead, secondly press the key Voltage（6v,12v,24v）,then press the key Start to charge.

3 Firstly press the key Battery Type to select lead, secondly press the key Voltage（6v,12v,24v）,then press the key Current , at last press the key Start to charge.

Caution:when this mode selected,please make sure your charger is lead acid battery. Please make sure your battery voltage is suitable with selected voltage,or the charging will fail.When the battery voltage is unknown,please select auto for voltage.

LiFePo4 battery charging

1 Firstly press the key Battery Type to select LiFePo4 , then press the key Voltage（12V,24V）,then press the key Start to charge

2 Firstly press the key Battery Type to select LiFePo4, secondly press the key Voltage（12V,24V）,then press the key Current , at last press the key Start to charge

Caution: when this mode selected,please make sure your charger is LiFePo4 battery.Please make sure your battery voltage is suitable with selected voltage,or the charging will fail.

Lithium battery charging

1 Firstly press the key Battery Type to select Lithium battery, then press the key Voltage（12V,24V,) then press the key Start to charge.

2 Firstly press the key Battery Type to select Lithium battery, secondly press the key Voltage（12V,24V）,then press the key Current ,at last press the key Start to charge

Caution:when this mode selected,please make sure your charger is Lithium battery.Please make sure your battery voltage is suitable with selected voltage,or the charging will fail.

Maintain

Firstly press the key Battery Type to select lead,secondly press the key Maintain, then press the key Voltage to select suitable voltage and at last press the key Start to charge.The charger will be charged by light current to make sure full current state and this mode will not damage your battery.

Desulfation:

Firstly press the key Battery Type to select lead,secondly press the key Desulfation,and then press the key Voltage(6V,12V),at last press the key Start to charge

Caution:when the battery ageing seriously and the capacity insufficient,you can select this mode to repair.Please notice the battery can be only repaired one by on.

Supply Mode
First press the key Battery Type to select lead, secondly press the key Voltage ,thirdly press the key Current and at last press the key Start.
Caution:used as power supply or undetected battery voltage, this mode can be selected.

Professional Mode
Firstly press the key Battery Type, then open the power to enter the professional mode.

When entering professional mode,please select different battery with different steps:
1 Press the key Battery Type to select LiFePo4,secondly press the key Voltage to select voltage and bat cells(three cells is 11V after fully charged,four cells is 14.6V after fully charged,6 cells is 21.9V after fully charged, 8 cells is 29.2V after fully charged), and the current is selected as the same with non-professional mode
2 Press the key Battery Type to select Lithium,secondly press the key Voltage to select voltage and bat cells(three cells is 12.6V after fully charged,four cells is 16.8V after fully charged,6 cells is 25.2V after fully charged, 8 cells is 33.6V after fully charged), and the current is selected as the same with non-professional mode.
Caution: In the mode of LiFePo4 and Lithium, hidden Bat cells will be show.Please notice that non-professionals don’t select this mode.If selected ,please connect the battery supplier, or there will be dangerous.This mode can’t be memorized,after put off,the charger will

back to the state of non-professional.

Connecting to the Battery.

Do not connect the AC power plug until all other connections are made. Identify the correct polarity of the battery terminals on the battery. Do not make any connections to the carburetor, fuel lines, or thin, sheet metal parts. The below instructions are for a negative ground system (most common). If your vehicle is a positive ground system (very uncommon), follow the below instructions in reverse order.

1.) Connect the positive (red) eyelet terminal connector to the positive (POS,P,+) battery terminal.

2.) Connect the negative (black) eyelet terminal connector to the negative (NEG,N,-) battery terminal.

3.) Connect the battery charger into a suitable electrical outlet. Do not face the battery when making this connection.

4.) When disconnecting, disconnect in the reverse sequence, removing the negative first (or positive first for positive ground systems).

Begin Charging.

1.) Verify the voltage and chemistry of the battery.

2.) Confirm that you have connected the battery clamps or eyelet terminal connectors properly and the AC power plug is plugged into an electrical outlet.

3.) [First time use] The charger will begin in Standby mode, and pause will be circled by blue . In Standby, the charger is not providing any power.

4.) Press the key battery type to select batteries,secondly press the key Voltage,thirdly press the key Current.

5.) Press the key Start and it will be lined by blue,secondly the battery will be detected.If the battery is normal,no battery indicator will lose and the charger will work normally, or reversly.

6.) The charger can now be left connected to the battery at all times to provide maintenance charging.

Auto-Memory: The charger has built in auto-memory and will return to the last charge mode when connected. Select suitable mode and press the key Start and then the charger will save new working mode.

Caution:Professional Mode can’t Auto-Memory.

CHARGING TIMES.

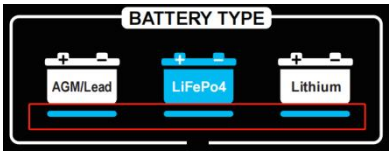
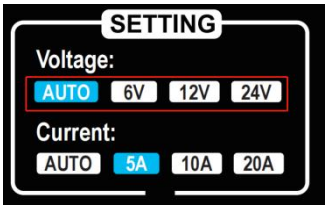
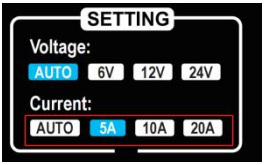
Charging Times.

The estimated time to charge a battery is shown below. The size of the battery (Ah) and its depth of discharge (DOD) greatly affect its charging time. The charge time is based on an average depth of discharge to a fully charged battery and is for reference purposes only. Actual data may differ due to battery conditions. The time to charge a normally discharged battery is based on a 50% DOD. Temperature will also impact charging times. GS280C features thermal compensation that automatically adjusts charging profiles to maximize charging performance.

Battery Size Ah (Amp hour)	Approximate Time to Charge In Hours	
	6V	24V
20	1.5	1.5
40	3.0	3.0
80	6.0	6.0
100	7.0	7.0
230	17.3	17.3

Battery Size Ah (Amp hour)	Approximate Time to Charge In Hours
	12V
40	1.5
80	3.0
160	6.0
200	7.0
300	15

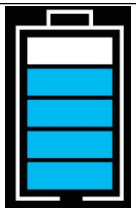
UNDERSTANDING CHARGE INDICATION

Button Illustration		
Button 1	**Battery Button:** Push the button to choose Battery type, the Battery Type Indicator on,See	
Button 2	**Voltage Button:** Push the button to choose Voltage, the Voltage Indicator on	
Button 3	**Current Button:** Push the button to choose current, the Current Indicator on, See	
Button 4	**Charging and Maintain Mode:** “Charging” Indicator on,When connect wel1 the Battery and Power,the Progress Bar Indicator on according to charging mode	

	If long time not use the battery ,push the button to select maintain mode, the battery is charging by a smaller current to maintain,"Maintain" indicator on, the Progress Bar Cyclic flashing("Maintain" mode is only for Lead Acid Battery)	
Button 5	**Desulfation Mode** (Lead Acid Battery Only) If the battery use long time, the capacity is used up soon, push the button , use "Desulfation" mode to charging to repair battery"Desulfation indicator on, the Progress Bar Cyclic flashing	
Button 6	**Supply Mode** When battery connect well, but can not be detected, push the button,Use "**Supply**" mode to charging battery"**Supply**" indicator on, the Progress Bar Cyclic flashing	
Button 7	**START and PAUSE Button** When set wel1, push the button, "Start" Indicator on , charger work Push under work condition, "PAUSE" indicator on,the charger stop work	

Graphic Indication

S/N	Graphic	Indicator	Explanation
1		Show Battery Cell number	In professional mode, display battery cell number; In normally mode, no displayed
2		ON or Flash	Warning: Over Current Short circuit

3		ON	Charging in “Desulfation”
4		ON	Battery Reverse connect
5		ON	Not Connect Battery
6		ON	Ambient Temperature for charging
7		ON	Show Battery Capacity
8		---	Show Charging Voltage
9		---	Show Charging Current
10		Display Number	For a description of the fault codes, see the fault code description on page 18

Progress Bar Indication

① Battery detect is normal
② Desulfation Stage, only for lead acid battery
③ Small current charging mode
④ Bulk charging mode
⑤ ABS mode
⑥ Floating Charging Mode
⑦ Full Charged

TECHNICAL SPECIFICATIONS

Input Voltage AC	100-240 VAC, 50/60Hz Max 350W
Output Power	280 W Max
Charging Voltage	Various
Charging Current	5A (6V),10A (6V),5A (12V),10A (12V),20A (12V),5A (24V),10A (24V),Auto (6V,12V,24V)
Low-Voltage Detection	1V (6V), 8V (12V), 16V (24V)
Back Current Drain	<0.5mA
Ambient Temperature	-20°C to +40°C
Type of Batteries	6V, 12V, 24V
Battery Chemistries	Wet, Gel, MF, CA, EFB, AGM, Calcium, Lithium,LiFePO4
Battery Capacity	Up to 230Ah, Maintains All Battery Sizes
Cooling	Fan Convection
Dimensions (L x W x H)	165*96*55mm
Weight	1.05Kg

FAILURE CODE

When the machine cannot be charged during use, the product display will display the fault code, please refer to the following fault code number description table, corresponding to the fault number to eliminate the phenomenon of non-charging caused by misoperation.

Fault number	Description of the fault
01	The battery output electrode is reversed
02	The charger output is shorted
03	The temperature inside the machine is too high
04	The output charging mode is selected incorrectly
41	Output voltage over voltage
42	Output current over current

LIST OF ACCESSORIES

1.Battery charging cable *1
2.Plug the power cord at the end of the figure-eight tail *1
3.Copper wire terminals*2
4.Product body * 1
5.Instructions *1

Manufacturer: Shanghaimuxinmuyeyouxiangongsi
Address: Shuangchenglu 803nong11hao1602A-1609shi, baoshanqu, shanghai 200000 CN.
Imported to AUS: SIHAO PTY LTD, 1 ROKEVA STREETEASTWOOD NSW 2122 Australia
Imported to USA: Sanven Technology Ltd., Suite 250, 9166 Anaheim Place, Rancho Cucamonga, CA 91730

EC	REP

E-CrossStu GmbH
Mainzer Landstr.69, 60329 Frankfurt am Main.

UK	REP

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