

INSTRUCTION MANUAL

SureCare™ Model 12212

12-Volt Battery Maintainer



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READ AND SAVE THESE INSTRUCTIONS

Table of Contents

Underwriters Laboratory (UL) Required Safety Instructions3

Preparing the Battery.....4

SureCare Location.....4

DC Connection Precautions.....4

General Information.....4

SureCare Specifications.....4

Testing Your Battery.....5

Testing a Manifold-type Lead Acid Battery.....5

Testing with a Hot/Cold Calibrated Hydrometer Tester.....5

Testing a Sealed, Maintenance-free, Gelled-type Lead Acid Battery.....5

Installing the SureCare.....5

Connecting the SureCare when Batteries are Installed in the Equipment6

Connecting the SureCare when Batteries are Outside of Equipment.....6

Operating the SureCare.....7

Troubleshooting.....7

Your Notes.....7

For Repair or Replacement.....8

Guarantee and Warranty.....8

Underwriters Laboratory (UL)

Required Safety Instructions

WARNING

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSON, OBSERVE THE FOLLOWING:

1. Do not expose the SureCare to rain or snow. It is designed to operate ONLY INDOORS

2. Use of any attachment not specifically recommended by the battery charger manufacturer for use with this exact model of charger may result in risk of fire and electric shock or injury to person.

3. An extension cord should not be used, unless absolutely necessary. Use of an improper extension cord could result in fire or electric shock. If extension cord must be used be sure:

a) Pins on plug of extension cord are the same number, size, & shape of plug on charger.

b) Extension cord is properly wired and in good condition.

c) Wire size is large enough for AC ampere rating of charge as specified below:

Length of cord, feet (meters) 25 (7.6) 60 (15.2)

100 (30.5) 150 (45.6) AWG Size 18.

4. Do not use the SureCare if it received a sharp blow, been dropped, or damaged in any way.

5. The SureCare contains no serviceable parts. If it fails for any reason, return to the address shown within for a free replacement under warranty.

6. To reduce risk of electric shock, unplug the SureCare from outlet before attempting any maintenance or cleaning.

7. **WARNING: Risk of explosive gases.**

Whenever you work near a lead acid battery it is dangerous. Batteries generate explosive gases during normal battery operation. For this reason, it is of utmost importance that each time before using your charger, you read this manual and follow the instructions exactly. To reduce risk of battery explosion, follow these instructions and those published by the battery manufacturer and the manufacturer of any equipment you plan to use in the vicinity of the battery. Review

cautionary markings on the products and the engine.

8. **PERSONAL PRECAUTIONS:** When working with/near a lead acid battery.

a) Someone should be in range of your voice or close enough to come to your aid when you work near a lead acid battery.

b) Have fresh water and soap nearby in case battery acid contact skin, clothing, or eyes.

c) Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery.

d) If battery acid does contact skin or clothing, wash immediately with soap and water. If acid entered the eye, immediately flood the eye with running water for at least 10 minutes and get help immediately.

e) Never smoke or allow a spark of flame near battery or engine.

f) Be extra cautious to reduce risk of dropping a metal tool or auto part onto battery. It might spark or short circuit battery or other electrical part that may cause an explosion.

g) Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead acid battery. A lead acid battery can produce a short circuit current high enough to weld a ring or the like to metal, causing a severe burn.

h) The SureCare is designed to be used for maintaining lead acid batteries only. Never use it to power a low voltage electrical system, or for attempting to maintain dry cell batteries that are commonly used in households. These batteries may explode and cause injury to persons and damage property.

Never Maintain a frozen battery or a battery at a temperature above 123° F.

Preparing the Battery

- a) If it is necessary to remove battery from equipment to charge, always remove ground terminal first. Turn off all accessories in the vehicle, so as not to cause an arc.
- b) Be sure area around battery is well ventilated while battery is being charged. Gas vapors can be forcefully blown away by using a piece of non-metallic material as a fan.
- c) Clean battery terminals. Be careful to keep corrosion from contacting eyes.
- d) Add distilled water to each cell until battery acid reaches level specified by the manufacturer. This helps Purge excessive gas from cells. Do not overfill. For a battery with out cell caps, follow manufacturer’s recharging instructions.
- e) Study all battery manufacturer’s specific instructions such as removing cell caps while charging and recommended charge rates.
- f) Determine voltage of battery by referring to equipment owner’s manual and make sure that charger output voltage is correct.

SureCare Location

- a) Make sure the SureCare is as far away from battery as output cables permit.
- b) Never place the SureCare directly above battery being charged; gases from battery will corrode and damage the SureCare.
- c) Never allow battery acid to drip on the SureCare when reading specific gravity or filling.
- d) Do not operate the SureCare in a closed-in area or restrict ventilation in any way.
- e) Do not set battery on top of the SureCare.

DC Connection Precautions

- a) Connect and disconnect DC output clips only after removing the SureCare from outlet.
- b) Never allow clips to touch each other.
- c) Attach clips to battery posts and twist or rock back and forth several times to make good contact. This keeps clips from slipping off terminals and reduces risk of sparking.

General Information

The SureCare maintains any size 12 volt lead acid car, boat, RV, motorcycle battery. Note that the SureCare does not charge.

The SureCare comes complete with insulated battery clips. The unit maintains one 12 volt battery.

SureCare is designed to maintain a single (1) healthy 12 volt battery for extended periods of non-use without causing a boil out or damage to the battery. So called trickle chargers will overcharge your battery if left connected over time. SureCare is guaranteed never to overcharge your battery. It is recommended that you charge your battery to full capacity before connecting it to the SureCare. It is also recommended that you leave your battery connected year round to the SureCare, at all times the battery is not in actual use, to prevent self-discharge and damage from lead plate sulphation.

SureCare Specifications

Input	120 Vac - 60 Hz - 0.065 Amp
Output	12 volts @ 250 mA
Float Voltage	13.2 volts
Float Current	250 mA (max)
Size/Weight	2-5/8" L x 1-7/8" W x 1-1/2" H
Weight	12.8 oz.

Battery Voltage vs. Charge Percentage

Hydrometer Reading on Each Cell	Voltage	Percentage
1.270	12.7	100%
1.250	12.5	75%
1.190	12.3	50%
1.150	12.1	25%
1.120	11.8	0%

Testing Your Battery

It is extremely important that you determine the health of your battery before you attempt to recharge and maintain it. If any of the cells are shorted (no reading on a hydrometer tester), or the difference in charge level is greater than 0.50 SG between any two cells (two ball difference if you use a ball-type hydrometer), your battery cannot be properly recharged and maintained. Discard the battery in an appropriate lawful manner. The SureCare has no electrical output unless it is connected to a healthy battery. Testing the SureCare with a volt or an Amp meter without the unit being connected across a good battery will result in a false reading. If you experience any problems, or are not sure of how to properly use or connect your SureCare, please e-mail our technical support at techsupport@vdcelectronics.com or call our toll-free technical support line (800-379-5579 ET). Be certain to leave your phone number with the area code, time zone and the best time to call.

Testing a Manifold-type Lead Acid Battery

1. Carefully remove all 6 caps or both manifold-type covers from your battery.
2. Check the water/electrolyte level. If the level is low or has ever been below top of plates, severe lead plate sulphation has taken place.
3. Refill each cell with distilled water only to a level of minimum over the top of the cell's plates.
4. Recharge the battery with a standard battery charger to ensure that it is completely charged before you determine its condition.

Testing with a Hot/Cold Calibrated Hydrometer Tester

Read the tester instructions carefully for most accurate readings.

1. When using the tester the first time or after a long period of non-use, fill the tester with the battery fluid and let it sit for 1/2 hour or longer. This will soak the balls in order to give you more accurate readings. Failure to do so will give you false readings indicating a battery that may not be in as good a condition as you may have thought.
2. After inserting the tester in a cell, gently tap

the tester several times against the inside wall of each cell to dislodge air bubbles that will cause more balls to float than should. Failure to do so will yield false readings that indicate a battery that is not fully desulphated or does not qualify for desulphation.

3. If no balls float in any cell, the cell is considered shorted. This means that your battery is beyond the point of being properly recharged or reconditioned.
4. Dispose of the battery.
5. If each cell floats two or more balls (or 1260 on gauge-type), your battery can be reconditioned.
6. Always rinse the tester with fresh water after every use. Failure to do so will cause false readings.
7. Store the tester in the holder to prevent breakage.

Testing a Sealed, Maintenance-free, Gelled-type Lead Acid Battery

These batteries have no filler caps or manifold-type covers. If you cannot gain access to the interior of your battery, because it is sealed, you cannot test it with a hydrometer.

1. Test the battery with a voltmeter. If the voltage is less than 11 volts, charge the battery overnight with a regular charger.
2. Let the battery rest for minimum of 8 hours, which means that you do not use or charge the battery for 8 hours.
3. Test the battery with a voltmeter. If the voltage is less than 12.2 volts (25% charge), the battery might have too much sulphation in it to reach full charge. In this case, you can desulphate the battery with a BatteryMINDER.
4. If the voltage is above 12.2 volts (25% charge), connect the SureCare to the battery.

Installing the SureCare

Before you connect the SureCare to your battery, test the battery for any shorted cells and check the voltage in the battery. The battery has to have a minimum resting voltage of 11 volts before the unit will turn on. Resting voltage means that the battery has not been charged or discharged within 8 hours minimum. If you test a battery that has not rested for at least 8 hours, you will get

incorrect, inaccurate readings.

1. Test your battery first before you connect it to the SureCare. See page 2 for more information on testing the battery.
2. Check the voltage in your battery. The SureCare does not turn on if the volt age is lower than 11 volts.
3. Charge the battery with a standard battery charger first before connecting it to the SureCare.
4. Plug the battery clip assembly supplied in the box into the mating plug at the end of the SureCare's output cord, or attach the ring terminal assembly to your battery's terminals (red to + and blue to -).
5. Attach the battery clips to the posts or terminal clamps of the battery (red to + and black to -).
6. The green indicator lights when the proper connection is made. The green light is powered by the battery and lights up even when the SureCare is not plugged in an electrical outlet.
7. Plug the SureCare into an AC electrical outlet as soon as possible after you have made the connection to the battery. Note: The unit will use the power from your battery and drain the battery if you do not plug it into an electrical outlet.
8. The green light stays solid during the maintenance mode.
9. Leave the SureCare connected to your battery at all times when it is not in actual use.

Connecting the SureCare when Batteries are Installed in the Equipment

Follow these instructions when the battery is installed in the equipment (vehicle, PWC, boat, tractor, etc.). A spark near the battery may cause battery to explode. To reduce risk of a spark near the battery:

1. Position the DC output cord to reduce risk of damage by hood, door, covers, or moving engine parts.
2. Stay clear of fan blades, belts, pulleys, and other parts that can cause injuries.
3. Check polarity of battery posts. The POSITIVE (POS, P, +) battery post usually has a larger diameter than the NEGATIVE (NEG, N, -) post.
4. Determine which post of battery is grounded (connected) to the chassis of equipment. If the negative post is grounded, see Item N. If the positive post is grounded, see Item P.

N. For negative grounded equipment, connect the POSITIVE (**RED**) clip from the SureCare to the POSITIVE (POS, P, +) ungrounded post of the battery. Connect the NEGATIVE (BLACK) clip to the vehicle chassis or the engine block away from the battery. Do not connect the clip to carburetor, fuel lines, or metal body parts.

P. For positive ground equipment, connect the NEGATIVE (BLACK) clip from the SureCare to the NEGATIVE (NEG, N, -) UNGROUNDED post of the battery. Connect the POSITIVE (RED) clip to chassis or engine block away from the battery. Do not connect the clip to carburetor, fuel lines, or sheet metal body parts. Connect to heavy gauge metal part of the frame or engine.

5. When disconnecting the SureCare, disconnect it from the AC outlet, and then remove the clips from the vehicle chassis, and the battery posts.

Connecting the SureCare when Batteries are Outside of Equipment

Follow these steps when the battery is outside of the vehicle or equipment. A spark near the battery may cause battery explosion. To reduce risk of a spark near the battery:

1. Check the polarity of battery posts. The POSITIVE (POS, P,+) battery post usually has a larger diameter than the NEGATIVE (NEG, N, -) battery post.
2. Attach at least a 24 inch long 6-gauge (AG) insulated battery cable to the NEGATIVE (NEG -) battery post.
3. Connect the (**RED**) SureCare clip to (POS+) the post of the battery.
4. Position yourself and free end of cable as far away from battery as possible, and then connect the NEGATIVE (BLACK) SureCare clip to the free end of the cable.
5. Do not face battery when making final connections.
6. When disconnecting the SureCare, always do so in reverse sequence of the connecting procedure, and break first connection while as far away from battery as is practical.
7. A marine (boat) battery must be removed and maintained on shore. To maintain it onboard requires equipment specifically designed for marine use.

Operating the SureCare

After you have installed the SureCare, keep it connected unless you are using the battery.

Display Operating Condition

DISPLAY	OPERATING CONDITION
Green Solid Light	The SureCare will not start if the voltage in a 12 volt battery is lower than 11 volts. The unit will feel warm to touch when it is working.

Troubleshooting

Problem	Solution
Green light is not on	If the solid green indicator light does not come on, you have not made a proper connection to the battery. The green light lights up even before you have plugged the unit into an electrical outlet.
I don't think that the SureCare is working properly	The SureCare will not start if the voltage in a 12 volt battery is lower than 11 volts. The light might come on, though. Test the battery with a voltmeter. Also, the unit will feel warm to touch when it is working.

YOUR NOTES:

For Repair or Replacement

In the event that you believe your product may be defective, you **MUST** speak to a VDC Electronics technician at 1-800-379-5579 x206 (ET) before proceeding further.

If after speaking with our tech support personnel it is necessary to return the unit, you **MUST** request an RMA number.

All returns must be authorized by VDC Electronics.

Items must be returned within 10 days after receiving your **Return Merchandise Authorization** number and must be packed in the original packaging with manual and all connectors included. Go to our web site www.batteryminders.com > Service & Support > Warranty > Customer Return Merchandise Authorization Form and include the filled-out form with your product.

Your Return Merchandise Authorization number must be shown on the return shipping label as follows:

VDC Electronics, Inc.
Returns Department
Attn.: RMA # (Enter Your RMA# Here)
147 D Woodbury Rd.
Huntington, NY 11743

Note: If your questions relate to safety concerns, please contact: customersupport@vdcelectronics.com or if a potentially hazardous emergency may exist cease using the product immediately and call (800) 379-5579 ext. 208 (ET) Monday – Friday or contact our tech support at ext. 206.

Standard operating questions, clearly answered in this manual, will not be answered by phone.

Guarantee and Warranty

NOTE: ALL returns must be authorized by VDC Electronics after speaking to a VDC Electronics technician at 1-800-379-5579 x206 ET. Please see this page for details.

5 YEAR LIMITED WARRANTY

VDC Electronics, Inc. warrants this product for FIVE years from date of purchase at retail against defective material or workmanship. It will be repaired or replaced at no charge providing it is returned to VDC Electronics, Inc., freight prepaid together with proof of purchase. We make no warranty other than this limited warranty and expressly exclude any implied warranty including any warranty for consequential damages.

(This limited warranty is not transferable)

ONE (1) YEAR 100% UNCONDITIONAL MONEY BACK GUARANTEE:

BatteryMINDER is Guaranteed to perform as claimed or WE will refund your full purchase price, including all taxes, shipping or handling cost applicable to the purchase.

Unit must be returned with Proof of Purchase directly to VDC Electronics, Inc., NOT TO THE DEALER FROM WHICH IT WAS PURCHASED.

