

Please read and save these instructions. Read through this owner's manual carefully before using product. Protect yourself and others by observing all safety information, warnings, and cautions. Failure to comply with instructions could result in personal injury and/or damage to product or property. Please retain instructions for future reference.



DIGITAL BATTERY ANALYZER

FOR CUSTOMER SERVICE

Technical Question?

CALL 1-866-458-2472

customerservice@oem-tools.com

UNPACKING

After unpacking unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. If any damage is observed, a shipping damage claim must be filed with carrier. Do not use Battery Tester if broken, bent, cracked or damaged parts (including labels) are noted. Any Battery Tester that appears damaged in any way, operates abnormally or is missing parts should be removed from service immediately. If you suspect that the Digital Battery Analyzer was subjected to a shock load (a load that was dropped suddenly, unexpectedly, etc.) immediately discontinue use until it has been checked by a factory authorized service center.



⚠ WARNING

The following safety information is provided as guidelines to help you operate your Digital Battery Analyzer under the safest possible conditions. Any tool or piece of equipment can be potentially dangerous to use when safety or safe handling instructions are not known or not followed. The following safety instructions are to provide the user with the information necessary for safe use and operation. Please read and retain these instructions for the continued safe use of your service system. Failure to follow instructions listed below may result in serious injury. In addition, make certain that anyone that uses the equipment understands and follows these safety instructions as well.

Explanation of Safety Signal Words

⚠ WARNING : Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION : Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION : Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Notes : Provide clarity and helpful information.



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Thank you very much for choosing an OEMTOOLS Product!

For future reference, please complete the owner's record below:

Model: _____ **Purchase Date:** _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it. This machine is designed for certain applications only. OEMTOOLS cannot be responsible for issues arising from modification. We strongly recommend this machine is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the machine until you have first contacted OEMTOOLS to determine if it can or should be performed on the product.

For technical questions please call 1-866-458-2472.



IMPORTANT INSTRUCTIONS AND SAFETY RULES

1. Know your tool. Read this manual carefully. Learn the tool's applications and limitations, as well as, potential hazards specific to it.
2. Keep work area clean and well lit. Cluttered or dark work areas invite accidents.
3. Keep children away. All children should be kept away from the work area. Never let a child handle a tool without strict adult supervision.
4. Do not operate this tool if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to operate.
5. Use safety equipment. Eye protection should be worn at all times when operating this tool. Use ANSI approved safety glasses. Everyday eyeglasses are NOT safety glasses. Dust mask, non-skid safety shoes, hard hat or hearing protection should be used in appropriate conditions.
6. Wear proper apparel. Loose clothing, gloves, neckties, rings, bracelets or other jewelry may present a potential hazard when operating this tool. Keep all apparel clear of the tool.
7. Don't overreach. Keep proper footing and balance at all times when operating this tool.
8. Check for damage. Check your tool regularly. If part of the tool is damaged it should be carefully inspected to make sure that it can perform its intended function correctly. If in doubt, the part should be repaired. Refer all servicing to a qualified technician. Consult your dealer for advice.
9. Keep away from flammables. Do not attempt to operate this tool near flammable materials or combustibles. Failure to comply may cause serious injury or death.
10. Store idle tools out of the reach.
11. Maintain tools with care.
12. Keep tools dry and clean.
13. Properly maintained tools are less likely to bind and are easier to control. Do not use a damaged tool. Tag damaged tools "Do not use" until repaired.
14. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation.
15. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
16. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.
17. Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.
18. When servicing a tool, use only identical replacement parts. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.
19. Maintain a safe working environment. Keep the work area well lit. Make sure there is adequate surrounding workspace. Keep the work area free of obstructions, grease, oil, trash and other debris. Do not use this product in a damp or wet location.
20. Maintain labels and nameplates on this product. These carry important information. If unreadable or missing, contact OEM for a replacement.
21. Keep the handle dry, clean and free from brake fluid, oil and grease.



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- 22. Before use, read and understand all warnings, safety precautions and instructions as outlined in the vehicle manufacturer’s service manual. It is beyond the scope of this manual to properly describe the correct procedure and test data for each vehicle.
- 23. Always perform vehicle service in a properly ventilated area. Never run an engine without proper ventilation for its exhaust. Stop work and take necessary steps to improve ventilation in the work area if you develop momentary eye, nose or throat irritation as this indicates inadequate ventilation.
- 24. Engine parts that are in motion and unexpected movement of a vehicle can injure or kill. When working near moving engine parts, wear snug fit clothing and keep hands and fingers away from moving parts. Keep hoses and tools clear of moving parts. Always stay clear of moving engine parts. Hoses and tools can be thrown through the air if not kept clear of moving engine parts. The unexpected movement of a vehicle can injure or kill. When working on vehicles always set the parking brake or block the wheels.
- 25. Avoid accidental fire and/or explosion. Do not smoke near engine fuel and battery components.
- 26. The warnings, precautions and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.
- 27. For safety purposes and the prevention of damage to expensive components it is advised that the user have an understanding of basic automotive repair and a working knowledge of automotive systems.
- 28. We believe the information contained herein to be reliable. However, general technical information is given by us without charge and the user shall employ such information at his own discretion and risk. We assume no responsibility for results or damages incurred from the use of such information in whole or in part. Always refer to specific instructions and technical information supplied by vehicle manufacturer.

- 29. The manufacturer declines any and all responsibility for damage to vehicles or components if said damage is the result of unskillful handling by the operator or of failure to observe the basic safety rules set forth in the instruction manual.

DISPOSAL

At the end of the useful life of the Digital Battery Analyzer, dispose of the components according to all state, federal, and local regulations.

PURPOSE

A safe, fast, simple and portable Battery, Starting and Charging System Analyzer.

PRODUCT SPECIFICATIONS

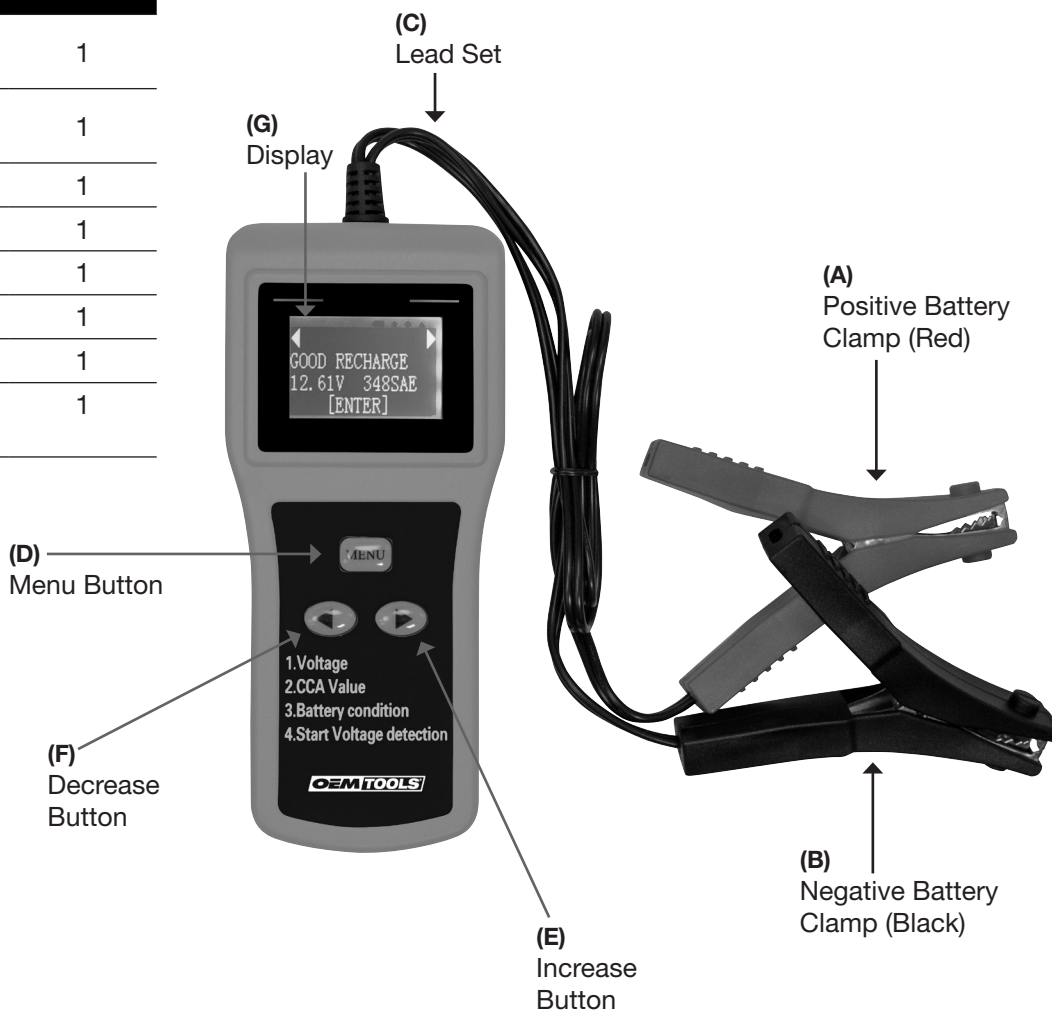
Battery CCA	40 - 2,000
Voltage Testing Range	1.5 - 15VDC
Maximum Power Consumption	.5W
Operating Temperature	14° - 122° Fahrenheit
Testing Standards	SAE, DIN, EN, IEC, CA





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Figure	Description	Quantity
24368A	Positive Battery Clamp (Red)	1
24368B	Negative Battery Clamp (Black)	1
24368C	Lead Set	1
24368D	Menu Button	1
24368E	Increase Button	1
24368F	Decrease Button	1
24368G	Display	1
24369H	Battery Cover (Not Shown)	1



WARNING

Always wear safety glasses and gloves!

OPERATING INSTRUCTIONS

- WORKING NEAR A LEAD ACID BATTERY IS DANGEROUS. BATTERIES CAN GENERATE EXPLOSIVE GASES DURING NORMAL OPERATION. BATTERY EXPLOSION CAN KILL, INJURE AND CAUSE PROPERTY DAMAGE! TO REDUCE RISK OF BATTERY EXPLOSION, READ THE FOLLOWING OPERATING INSTRUCTIONS AND THOSE PUBLISHED BY THE BATTERY MANUFACTURER AND THE PREVIOUS SAFETY INSTRUCTIONS PRIOR TO OPERATING THIS TESTER.
- **RISK OF CONTACT WITH BATTERY ACID.** BATTERY ACID IS A HIGHLY CORROSIVE SULFURIC ACID.
- BE SURE AREA IS WELL VENTILATED WHILE THE BATTERY IS BEING TESTED.
- WHEN WORKING NEAR THE BATTERY, PLEASE MAKE SURE THERE ARE OTHERS AROUND WHO CAN PROVIDE HELP IF NEEDED.
- PLEASE BE READY WITH WATER AND SOAP NEAR YOU, IN CASE BATTERY ACID COMES INTO CONTACT WITH SKIN, CLOTHES OR EYES.
- PLEASE WEAR PROTECTION AND SAFETY EQUIPMENT.



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- IF BATTERY ACID COMES INTO CONTACT WITH SKIN OR THE CLOTHES, IMMEDIATELY WASH WITH SOAP AND WATER. IF THE BATTERY ACID GETS INTO EYES, RINSE EYES WITH WATER RIGHT AWAY FOR AT LEAST 10 MINUTES THEN GO TO THE HOSPITAL.
- This equipment is intended only for professional use by personnel trained in performing the service functions for which it is has been designed.
- This equipment is designed for servicing a variety of vehicles in a safe, convenient manner. However, differences in vehicle makes and models may make it impossible to use this equipment as it is intended. Do not attempt to force the use of this equipment on an application for which it is not designed to perform.
- The procedures documented in this manual are to serve as guidelines for the use of this equipment.
- In addition to these guidelines, always follow the manufacturer's recommended procedures when servicing each unique vehicle.
- The use of this equipment is simple and straightforward if you follow the instructions. When operating this equipment, use common sense, and always stop to think before connecting the Battery tester or performing any tests.
- Position cords to reduce risk of damage by hood, door or moving engine parts.
- Stay clear of fan blades, belts, pulleys and other moving parts that can cause injury to persons.
- Check polarity of battery posts.

THESE TEST PROCEDURES ARE FOR NEGATIVE GROUNDED VEHICLES ONLY. FOR POSITIVE GROUNDED VEHICLES, SEE VEHICLE MANUFACTURER REPAIR MANUAL.

BATTERY TEST

1. Before you test a battery in a vehicle, turn off the ignition, all accessories and loads.
 2. Close all the vehicle doors and the trunk lid.
 3. Determine which post of the battery is grounded (connected) to the chassis.
 4. Connect NEGATIVE (black) clip to vehicle chassis or engine block away from the battery.
 5. Connect POSITIVE (red) clip from battery tester to POSITIVE (POS, P, +) ungrounded post of battery.
 6. Do not connect clip to carburetor, fuel lines, or sheet metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
- Note:** When disconnecting, remove clip from vehicle chassis FIRST, then remove the clip from the battery terminal.
7. Make sure you have put a 9V internal battery into the tester's battery chamber. If the LCD screen shows "POWER LOW", then the internal 9V battery needs to be replaced. Replace it before starting test. Note that nothing will be seen on the screen until the tester is connected to a vehicle battery.
 8. Press the "◀▶" button to select Battery Test. The screen will show "BATTERY TYPE" selection. Press the "◀▶" button to select the battery type: REGULAR LIQUID, AGM BATTERY or VRLA/GEL BATTERY.
 9. Press "Enter" button to confirm choice.
 10. The screen will show "RATING STANDARD". Press the "◀▶" button to select the battery standard:
SAE DIN IEC EN or CA (MCA)
SAE: United States Standard
EN: European Standard
DIN: German Standard
IEC: International Electrical Science and Technology Association
CA (MCA): Normal starting current or maritime starting current
 11. Press the "Enter" button to confirm the choice and go to next step.
 12. The screen will show "RATING CAPACITY". Press the "◀▶" button to select the battery capacity of CCA. With each press of the button, the value will increase or decrease 5 units.
 13. This tester's testing range:
SAE: 40 ~ 2,000 CCA
EN: 40 ~ 2,100 CCA
DIN: 25 ~ 1,300 CCA
IEC: 30 ~ 1,500 CCA
CA (MCA): 240 ~ 1,440 CA (MCA)
 14. Press the "Enter" button to confirm the input value of the battery capacity and begin the test.
 15. The screen will show "TESTING". Testing is in progress. The test result will show up after 2 seconds.
 16. If the tester asks "BATTERY CHARGED?", press the "◀▶" button to select "YES" or "NO". Press "Enter" button to confirm choice and proceed to the next step.
- Note:** The Tester will judge the battery status and decide whether to show this Step or not, it doesn't appear every time.



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17. When the test is completed, the display shows the actual volts and the actual CCA or %.
18. Press the “◀▶” button to see the SOH (STATE OF HEALTH) or SOC (STATE OF CHARGE) as a percentage.

THE TEST RESULTS ARE AS FOLLOWING

1. “GOOD PASS” - The battery is good and capable of holding a charge.
2. “GOOD RECHARGE” - The battery is good but needs to be recharged.
3. “RECHARGE RETEST” - Battery is discharged, the battery condition cannot be determined until it is fully charged. Recharge and retest the battery.
4. “BAD REPLACE” - The battery will not hold a charge. It should be replaced immediately.
5. “TEST ERROR” - The tested battery is bigger than 2,000 CCA or the clamps are not connected properly. Please fully charge the battery and retest after excluding both previous reasons. If reading is the same, the battery should be replaced immediately.
6. Press “ENTER” return to Step 4 to continue testing or remove the test clamps from the battery terminal to end test.

STARTING SYSTEM TEST

NOTE: BEFORE BEGINNING THE STARTING AND CHARGING SYSTEM TEST, MAKE SURE THE BATTERY IS IN GOOD CONDITION AND FULLY CHARGED.

1. Connect the tester to a vehicle battery; the tester will be in default “BATTERY TEST” mode. Press the “▶” button once to enter “SYSTEM TEST”. The voltage, “XX.XX V” also appears on the screen. Press the “Enter” button to go to next step. The screen will show “TURN OFF LOADS START ENGINE”.
2. Turn off all vehicle accessory loads such as lights, air conditioning, radio, etc. and then start the engine. Wait for the tester to detect the cranking voltage.
3. When the engine is started and test complete, one of the three results will be displayed along with the actual reading measured.
 - a. “CRANKING VOLTS NORMAL”. The system cranking voltage is in a good range.

- b. “CRANKING VOLTS LOW”. The cranking voltage is below normal limits; troubleshoot the starter with manufacturer’s recommended procedure.
- c. “CRANKING VOLTS NOT DETECTED”. The cranking voltage is not detected, retest. Press the “Enter” button to go to next step.

CHARGING SYSTEM TEST

1. The screen will show “PRESS ENTER FOR CHARGING TEST”. Press the “Enter” button to begin charging test. The screen will show “MAKE SURE ALL LOADS ARE OFF”. This is for testing alternator idle voltage. Press the “Enter” button to go to next step. The screen will show results. One of the three results will be displayed along with the actual reading measured.
 - a. “ALT. IDLE VOLTS NORMAL”. The system is showing normal output from the alternator. No problem is detected.
 - b. “ALT. IDLE VOLTS LOW”. The alternator is not providing sufficient current to the battery. Check the belts to ensure the alternator is rotating with engine running. If the belts are slipping or broken, replace the belts and retest. Check the connections from the alternator to the battery. If the connection is loose or heavily corroded, clean or replace the cable and retest. If the belts and connections are in good condition, replace the alternator.
 - c. “ALT. IDLE VOLTS HIGH”. The voltage output from the alternator exceeds the normal limits of a functioning regulator. Check to ensure there are no loose connections and the ground connection is normal. If there is no connection issue, replace the regulator. Since most alternators have the regulator built-in, this will require you to replace the alternator. The normal high limit of a typical automotive regulator is 14.7 volts +/- 0.05. Check manufacturer specifications for the correct limit, as it will vary by vehicle type and manufacturer.
2. With the engine at idle, press “ENTER” for the charging system with accessory loads test. Turn on the blower to high (heat), high beam headlights, and rear defogger. Do not use cyclical loads such as air conditioning or windshield wipers.
3. The screen will show “TURN ON LOADS AND PRESS ENTER”.



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4. When testing older model diesel engines, you may need to run up the engine to 2,500 RPM for 15 seconds.
5. Press the “ENTER” key to test the charging system with accessory loads. One of the three results will be displayed along with the actual testing measured.
 - a. “ALT. LOAD VOLTS NORMAL”. The system is showing normal output from the alternator. No problem detected.
 - b. “ALT. LOAD VOLTS LOW”. The alternator is not providing sufficient current for the systems electrical loads and the charging current for the battery. Check the belts to ensure the alternator is rotating with the engine running. If the belts are slipping or broken, replace the belts and retest. Check the connections from the alternator to the battery. If the connection is loose or heavily corroded, clean or replace the cable and retest. If the belts and connections are in good working condition, replace the alternator.
 - c. “ALT. LOAD VOLTS HIGH”. The voltage output from the alternator to the battery exceeds the normal limits of a functioning regulator. Check to ensure there are no loose connections and that the ground connection is normal. If there are no connection issues, replace the regulator. Since most alternators have the regulator built-in, this will require you to replace the alternator.
6. Press “ENTER” when charging system test is completed. Turn all accessory loads and engine off. Press “ENTER” to return to Step 1 or remove the test clamps from the battery posts after completion of testing to end test.
7. The screen will show “TEST OVER. TURN OFF LOADS & ENGINE”.
7. Press “Enter” button to confirm selection and return to LANGUAGE SELECT display.

ADJUST DISPLAY BRIGHTNESS

1. Connect the Battery Tester to a vehicle battery.
2. The tester defaults to BATTERY TEST display.
3. Press “▶” button three times to get to the LCD BRIGHTNESS display.
4. Press “Enter” button to show LCD Brightness in percentage.
5. Press the “▶” button to adjust the LCD brightness.
6. Press “Enter” button to save the setting and return to LCD BRIGHTNESS display.

FAST TEST MODE

1. In fast test mode, the tester will test the vehicle battery with the parameters saved last time. Include battery type, battery standard, and battery capacity.
2. Connect the Battery Tester to a vehicle battery.
3. The tester defaults to BATTERY TEST display.
4. Press “▶” button once to get to the FAST TEST MODE display.
5. Press “Enter” button to test the battery.
6. Tester will show “TESTING”.
7. After about 2 seconds, the test data will be showed on screen. Includes: battery voltage value and CCA value.
8. Press “Enter” button to return Step 3.

MAINTENANCE

1. Always store the Battery Tester in a well-protected area where it will not be exposed to inclement weather, corrosive vapors, abrasive dust, or any other harmful elements.
2. Keep the Battery Tester clean for better and safer performance.
3. Clean clamps and case after each use to prevent corrosion from battery fluid.

LANGUAGE SELECT

1. There are five languages you can select: English, Chinese, German, French and Spanish.
2. Connect the Battery Tester to a vehicle battery.
3. The tester defaults to BATTERY TEST display.
4. Press “▶” button twice to get to the LANGUAGE SELECT display.
5. Press “Enter” button, the display will show all language options.
6. Press the “▶” button to select the language you want.



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OEMTOOLS™ LIMITED 90 DAY WARRANTY

From 90 days from the original purchase of this product, OEMTOOLS will warranty this item. If you find any defect in material or workmanship, through normal usage, return it to the place of purchase or to OEMTOOLS for repair or replacement at our discretion. In order to obtain this service send your tool and proof of purchase, transportation pre-paid, to OEMTOOLS Q.A. Dept., 3850 Raines Road #3, Memphis. We will not be responsible for lost or damaged goods during transportation, please insure your package. If our inspection verifies the defect, we will either repair or replace the product at our election, or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

OEMTOOLS does not provide warranty for products labeled other than OEM or OEMTOOLS. OEMTOOLS will not provide any warranty for products subjected to abnormal use. Abnormal use includes, but is not limited to, abuse, accident, alteration, neglect, and unauthorized or unreasonable use or repairs. This warranty does not cover bits, blades, files, batteries, or calibration. We recommend that you maintain your tools and sharpen or replace blades, bits, files, and batteries as necessary. OEMTOOLS reserves the right to make any changes in construction or design at any time without any obligation in incorporating such changes to tools or equipment previously sold.

OEMTOOLS makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear or to lack of maintenance.

We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.