

RESEARCH ENERGY OF OHIO  
1040 COMMERCE WAY  
LAWRENCEBURG KY 40342  
PH: +1 502-353-9200 FX: 502-859-3851  
EMAIL: SALES@RESEARCHENERGY.COM  
WEB: WWW.RESEARCHENERGY.COM



# OPERATIONAL MANUAL:

## BO199.9-1M BLASTER'S OHMMETER

PERMISSION IS GRANTED TO PRINT THIS MANUAL FOR YOUR OWN USE OR FOR DISTRIBUTION PURPOSES

<https://researchenergy.com/contact/>

# TABLE OF CONTENTS

INTRODUCTION .....	3
GENERAL INFORMATION .....	3
OPERATION .....	3
Operational Test .....	3
General Operating Procedure .....	3
BATTERY .....	4
Battery Life .....	4
Battery Type and Replacement .....	4
REPAIRS .....	5
USER INFORMATION AND LIMITED WARRANTY .....	5
Disclaimer .....	5
Limited Warranty .....	5

## **INTRODUCTION**

The REO BO199.9-1M Blaster's Ohmmeter is a pocket-size SINGLE CIRCUIT model designed for general use. A nylon cord attached to the case allows the ohmmeter to hang from around the neck for convenient use. Long battery life, a rugged water-resistant enclosure and heavy-duty terminals provide the blaster with a dependable unit. This user-friendly digital ohmmeter speeds up circuit check-out and provides vital information necessary to assure a successful blast.

## **GENERAL INFORMATION**

The REO BO199.9-1M Blaster's Ohmmeter provides nominal values of circuit resistance on a large easy-to-read digital display. Two terminals on the ohmmeter are provided for single circuit testing. The BO199.9-1M Blaster's Ohmmeter measures resistances of 0 - 199.9 ohms in 0.1 ohm increments, with an accuracy of +/- 0.1 ohm. The maximum test current is 3 milliamperes. The ohmmeter turns on automatically when a circuit is detected and turns off automatically when the circuit is disconnected.

## **OPERATION**

### **OPERATIONAL TEST**

1. Do not connect a blasting circuit to the BO199.9-1M Blaster's Ohmmeter until this Operational Test has been performed.
2. Short the terminals on the ohmmeter with a short piece of wire.
3. The ohmmeter should turn on and indicate 00.0 (+/- 0.1) ohm.
4. If the battery is in need of replacement, BAT appears on the display.
5. Remove the short from the terminals on the ohmmeter. The ohmmeter should turn off and remain off.

### **GENERAL OPERATING PROCEDURE**

Note: The following procedure is intended as a guide only, and each user must prepare and verify his own procedure consistent with Local, State, and Federal regulations. Complete Operating Instructions appear on the back of the BO199.9-1M Blaster's Ohmmeter.

**CAUTION - USE OF THIS EQUIPMENT REQUIRES THAT THE OPERATOR HAS BEEN TRAINED AND CERTIFIED IN BLASTING TECHNIQUES.**

WARNING: BATTERIES ALONE CAN FIRE ELECTRIC DETONATORS. KEEP BATTERIES AWAY FROM THE BLASTING CIRCUITS.

WARNING: KEEP THE BLASTING CIRCUITS SHUNTED WHEN NOT CONNECTED TO THE OHMMETER. MINIMIZE THE TIME THE BLASTING CIRCUITS ARE CONNECTED TO THE OHMMETER BY TAKING RESISTANCE VALUES QUICKLY. RECORD THE DATA IN A LOG BOOK FOR ANALYSIS AND FUTURE REFERENCE.

1. Perform the Operational Test.
2. Connect the blasting circuit to the terminals on the BO199.9-1M Blaster's Ohmmeter
3. Note the resistance displayed. 1--.- will be displayed if the resistance exceeds 199.9 ohms.
4. Shunt the blasting circuit after testing.

## **BATTERY**

### **BATTERY LIFE**

Under normal use, an Alkaline type battery will last more than 2000 hours of operation. During use of the ohmmeter, BAT will appear on the display when the battery is in need of replacement.

### **BATTERY TYPE AND REPLACEMENT**

Under normal use, an Alkaline type battery will last more than 2000 hours of operation. During use of the ohmmeter, BAT will appear on the display when the battery is in need of replacement.

To replace the battery, loosen and remove the two 1/4" screws which fasten the back cover to the tester. Remove the back. Remove the old battery and insert the new alkaline battery, observing polarity. After battery replacement, make sure that the gasket on the back cover is sealing properly and that the two screws are securely tightened.

WARNING: USE ONLY AN ALKALINE TYPE BATTERY. Do not use a carbon-zinc type battery as it does not have the capacity to operate the BO199.9-1M Blaster's Ohmmeter.

CAUTION: OBSERVE POLARITY WHEN REPLACING THE BATTERY. INCORRECT POLARITY WILL DAMAGE THE BLASTING MACHINE.

CAUTION: EXAMINE BATTERY AT LEAST EVERY 3 MONTHS FOR CHEMICAL LEAKAGE. REPLACE THE BATTERY AT LEAST YEARLY EVEN IF NOT EXHAUSTED. REMOVE THE BATTERY FROM THE BLASTER'S OHMMETER IF IT IS NOT GOING TO BE USED FOR TWO OR MORE MONTHS.

## **REPAIRS**

The BO199.9-1M Blaster's Ohmmeter must be repaired only at the factory to ensure quality workmanship, and for updates to current production standards. Quality control tests are performed, and exact replacement parts are used. Each item repaired is subjected to the same quality control tests as new production. Such procedures and the specialized test equipment required are not available in the field or at other generalized repair shops.

If a repair is needed, please go to our website at [www.researchenergy.com](http://www.researchenergy.com) and click on the Repairs button and fill out the information requested and submit a request for repair. Once we receive this request, we will contact you and send you an RMA for you to return your unit to us.

## **USER INFORMATION AND LIMITED WARRANTY**

### **DISCLAIMER**

The information contained in this manual is the instructions and recommendations of Research Energy of Ohio, Inc. Federal, State and/or Local laws, rules and regulations may alter the sequence of operating the equipment. It is the responsibility of the purchaser and user to ensure use consistent with Federal, State and/or Local laws, rules and regulations. It is the responsibility of the receiving office to register this document to the appropriate department and person(s) responsible for mine and blasting safety.

**WARNING: BLASTING PROCEDURES, ELECTRIC DETONATOR SELECTION, ELECTRIC DETONATOR CIRCUIT DESIGN, SHOT LAYOUT AND TIMING ARE THE RESPONSIBILITY OF THE USER.** Consult with the Explosives Engineer and with the explosives suppliers for necessary information and training for safe, efficient blasts.

### **LIMITED WARRANTY**

Each unit is tested extensively before shipment and carries a 90-day LIMITED WARRANTY. If the unit fails to test or perform due to a defect in material or workmanship, please return it to the factory. The unit will be repaired or replaced at our option. This LIMITED WARRANTY is void if the equipment has been dismantled, altered, or otherwise abused in any way.

The above LIMITED WARRANTY is exclusive and in lieu of all warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose. Under no circumstances shall Seller or Manufacturer be liable for damages of any description occasioned by or resulting from operation or use of this equipment.

We cannot anticipate all conditions under which this information and our products, or our products in combination with the products of other manufacturers, may be used and therefore accept no responsibility for the results obtained, or the suitability or the safety of our products when used alone or in combination with other products. The user must make his own tests to determine the suitability and safety of each product and product combination for his own purpose. We sell the product without warranty and the buyers and users assume all responsibility and liability for all losses (including anticipated profits), consequential damages, or incidental damages arising from the use of our products alone or in combination with other products.

The use of this equipment by persons not trained in blasting techniques will make the warranty null and void.