

OPERATING INSTRUCTIONS MODEL TI-DM200 DIGITAL MULTIMETER PLEASE READ THESE OPERATING INSTRUCTIONS CAREFULLY

Misuse and or abuse of these instruments cannot be prevented by any printed word and may cause injury and or equipment damage.



Rain Bird Corporation / 970 West Sierra Madre Avenue Azusa, CA 91702 / www.rainbird.com / 800-247-3782

WARRANTY ONE YEAR LIMITED WARRANTY

Rain Bird will repair or replace this test instrument if it fails in normal use within one year from retail purchase.

Sec. 1 DESCRIPTION These DMMs offer a powerhouse of measurement capability in a small self-contained housing.

- 4. Remove the battery from the compartment and unsnap the battery connector.
5. Replace the battery with a 9V transistor type battery (NEDA #1604).

Sec. 7 FUSE REPLACEMENT A 0.2A, 250V, 5 x 20mm fast acting fuse, is installed in the instrument and used to protect the ampere ranges along with other solid state components.

WARNING

Before attempting to replace the fuse, disconnect the test leads from any energized circuit and then disconnect the test leads from the instrument.

- 1. Disconnect the test leads from any energized circuit and then from the instrument.
2. Turn the range selector switch to the "OFF" position.

Sec. 8 OPERATION Before making any measurements always examine the instrument and accessories used with the instrument for damage, contamination (excessive dirt, grease, etc.) and defects.

Ambiente para almacenamiento -20 a 60 °C con humedad relativa inferior a 80%

Sección 2 CARACTERÍSTICAS

- Répertoire UL selon les normes américaines et canadiennes
• Conçu pour la catégorie II 600 V
• Tamaño de bolsillo

Sección 3 ESPECIFICACIONES

Indicador LCD (pantalla de cristal líquido) de 3-1/2 dígitos, números de 16 mm y lectura máxima de 1999 con signo automático

Indicador—n de escala excedida Muestra "1" como dígito más significativo

Velocidad de muestreo Tres veces por segundo

Ambiente para operación 0 a 50 °C, máxima humedad relativa 80% a 31 °C, decreciendo linealmente a 50% con 40 °C

Sec. 1 DESCRIPTION These DMMs offer a powerhouse of measurement capability in a small self-contained housing. It is designed for the professional at work in the field or in the laboratory, yet simple enough to operate making it perfect for the hobbyist too.

attempt to make any measurements. Instead refer to sec.14 Return for Repairs.

- 1. Insert the black and red test leads into the respective "COM" and "V-Ω " jacks.
2. Place the range selector switch into the 600DCV/600ACV position if a dc voltage is to be measured or into the position if an ac voltage is to be measured.

CAUTION

To avoid possible electric shock, instrument damage and/or equipment damage, do not attempt to take any voltage measurements if the voltage is above 600Vdc or if the voltage is unknown.

- 3. Apply the test leads to the two points at which the voltage reading is to be taken.
4. Turn the range selector switch to the next lower range for a more accurate reading only if the reading is within that next lower range.

Sec. 8.2 RESISTANCE AND DIODE MEASUREMENTS 1. Insert the black and red test leads into the respective "COM" and "V-Ω" terminals.

and electrically insulates the user from potential shock hazards. Electronic overload protection against accidental application of voltage to resistance and continuity circuits, combined with it's rugged construction make it durable and reliable instrument.

- Sec. 2 FEATURES
• UL listed to both US and Canadian standards
• Designed to Cat. II 600V
• Pocket-size
• Simple operation

Sec. 3 SPECIFICATIONS Display: 3-1/2 digit LCD, 0.625" numerals, maximum reading1999 with automatic sign.

Storage Environment: -20° to 60°C (-4° to 140°F) at <80% relative humidity.

Power Source: One (1) 9V Transistor Type Battery (NEDA #1604).

Power Consumption: 30mW typical. Battery Life: 200 hours typical with zinc carbon.

Fuse: Part F-14; 0.2A, 250V, 5x20mm, fast acting. Dimensions: 5.1"H x 2.8"W x 1.1"D (130 x 72 x 28 mm).

Instrument complies with insulation category (over voltage category) II. Industrial use. Pollution degree 2 in accordance with IEC-664.

DOUBLE INSULATION

WARNING: TO AVOID ELECTRIC SHOCK DISCONNECT MEASURING TERMINALS BEFORE REMOVING BATTERY COVER.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE, REPLACE ONLY WITH FUSE OF THE SPECIFIED VOLTAGE, CURRENT AND RUP-TURE SPEED RATINGS.

Table with AC Voltage and DC Voltage sections, listing range, accuracy, resolution, and overload protection for various measurement functions.

forward resistance value of diodes. The diode check entails injecting a given current into the diode junction to be tested and reading the voltage drop across the diode.

Sec. 9 MAINTENANCE Maintenance consists of periodic cleaning, battery replacement, fuse replacement and recalibration.

Sec. 10 ACCESSORIES The following accessory is available C-37 Carrying Case

Sec. 11 CALIBRATION Calibration on these meters should be performed every year. This can be done by sending the instruments prepaid to:

Rain Bird Test Instrument Service Center Customer Service Department 245 Marcus Blvd. Hauppauge, NY 11788

Specify in writing that calibration is necessary. The instrument will be returned to you normally within one week. Estimates will be furnished upon request.

CAUTION The following procedures should be performed by persons trained and qualified in electronics and electronic equipment service. DO NOT attempt this procedure if not qualified.

Table with multiple columns detailing technical specifications: Tensión Continua, Rango, Precisión Básica, Resolución, Impedancia de Entrada, Protección Contra Sobrecarga, Tensión Alterna, and Protección Contra Sobrecarga.

PRECAUCIÓN: PARA TENER PROTECCIÓN CONTINUA CONTRA INCENDIOS, REEMPLAZE EL FUSIBLE SOLAMENTE POR OTRO QUE SATISFAGA LOS REQUERIMIENTOS DE TENSIÓN, CORRIENTE Y VELOCIDAD DE RUPTURA ESPECIFICADOS.

Table with AC Voltage and DC Voltage sections, listing range, accuracy, resolution, and overload protection for various measurement functions.

WARNING Do not attempt calibration or service unless another person capable of rendering first aid and resuscitation is present.

Sec. 12 RETURN FOR REPAIRS Before returning your digital multimeter for repair be sure to check that the failure to operate properly is not due to the following:

- 1. Weak battery
2. Open fuse
3. Open, loose or intermittent test leads

If these conditions do not exist and the instrument fails to operate properly, return the instrument and accessories prepaid to:

Rain Bird Test Instrument Service Center Customer Service Department 245 Marcus Blvd. Hauppauge, NY 11788

State in writing what is wrong with the instrument. All warranty repairs must include proof of purchase in the form of a legible original copy of the sales receipt clearly identifying the distributor, model number and date of purchase.

Specify in writing that calibration is necessary. The instrument will be returned to you normally within one week. Estimates will be furnished upon request.

CAUTION The following procedures should be performed by persons trained and qualified in electronics and electronic equipment service. DO NOT attempt this procedure if not qualified.

Table with Resistancia and Diodes sections, listing range, accuracy, resolution, and protection details for various measurement functions.

Sección 4 REGLAS DE SEGURIDAD

- 1. Antes de operar su multímetro digital, lea estas instrucciones en forma completa y atenta.
2. Antes de cada uso, verifique siempre que los cables de prueba y los accesorios no tengan signos de daño o de anomalía.

- Sec. 4 SAFETY RULES
1. Read these operating instructions thoroughly and completely before operating your DMM.
2. Always inspect your DMM, test leads and accessories for any sign of damage or abnormally before every use.
3. Never ground yourself when taking electrical measurements.
4. Never touch exposed wiring, connections or any live circuit conductors when attempting to take measurements.

thorized modification of the instrument. Return the instrument to Rain Bird Test Instrument Service Center for service and repair to insure that safety features are maintained.

Sec. 5 PREPARATION FOR USE

Sec. 5.1 UNPACKING AND CONTENTS CHECK The DMM's come complete and ready to use. Check the following contents list when unpacking.

- Operating Instructions #314
• Test Leads TL-76 (one black, one red)
• 9V Transistor Type Battery
• One Fuse installed

Sec. 5.2 PRE-OPERATION PROCEDURE

- 1. Install the 9V transistor type battery.
2. Inspect the instrument for any external defects by comparing with the diagram on page 1.
3. Insert the test leads into the "COM" and "V-Ω " jacks.

selector switch into the following ranges shown in the chart below. Check for the appropriate meter response.

Table showing Range, Display, and Reading for various voltage and resistance measurements.

- 5. As you can see, the decimal point moves as the ranges are changed.
6. You can now check the decimal point on each range by referring to sec. 3 Specifications where the ranges are all listed.
7. If any abnormal conditions exist, do not attempt to take any electrical measurements.

Sec. 6 BATTERY REPLACEMENT

The DMM's have a self-contained power supply consisting of One 9V Transistor Type Battery (NEDA #1604).

WARNING Before attempting to replace the battery, first disconnect the test leads from any energized circuit and then disconnect the test leads from the instrument. 1. Disconnect the test leads from any energized circuit and then from the instrument. 2. Turn the range switch to the "OFF" position. 3. Remove screws and open the back case.

INSTRUCCIONES DE OPERACIÓN MODELO TI-DM200 MULTIMETRO DIGITAL POR FAVOR LEA ESTAS INSTRUCCIONES DE OPERACIÓN CUIDADOSAMENTE

El mal uso o abuso de estos instrumentos no puede ser evitado mediante ninguna instrucción escrita y puede causar lesiones y/o daños al equipo.



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GARANTÍA GARANTÍA LIMITADA DE UN AÑO

Si este instrumento falla antes de un año de la fecha de adquisición por parte de comprador final original, Rain Bird lo reparará o reemplazará.

Sección 1 DESCRIPCIÓN

Este instrumento ofrece una poderosa habilidad de medición dentro de un alojamiento pequeño.

Advertencia Antes de intentar reemplazar la pila, desconecte primero las puntas de prueba de cualquier circuito alimentado y luego desconéctelas del instrumento.

- 1. Desconecte las puntas de prueba de cualquier circuito alimentado y luego desconéctelas del instrumento.
2. Gire el conmutador de escalas a la posición "OFF" (desconectado).
3. Saque los tornillos y abra la parte posterior de la caja del instrumento.

Sección 7 REEMPLAZO DEL FUSIBLE En el instrumento hay instalado un fusible de 0.2 A, 250 V, 5 x 20 mm, de acción rápida, que se emplea para proteger las escalas de medición de intensidad de corriente junto con otros componentes de estado sólido.

ADVERTENCIA Antes de intentar el reemplazo del fusible, desconecte las puntas de prueba de cualquier circuito alimentado y luego desconéctelas del instrumento.

- 1. Desconecte las puntas de prueba de cualquier circuito alimentado y luego desconéctelas del instrumento.

- 11. Para evitar los choques eléctricos emplee PRECAUCION cuando trabaje con tensiones superiores a 40 VCC o 20 VCA.
12. No opere este instrumento en una atmósfera explosiva (por ejemplo, en presencia de gases, humos, vapores o polvaredas inflamables).

Sección 5.2 PROCEDIMIENTO ANTERIOR A LA OPERACIÓN

- 1. Instale la pila de 9 V apta para transistores.
2. Inspeccione el instrumento para comprobar que no tenga ningun defecto externo (compárelo con el diagrama de la página 1).
3. Inserte las puntas de prueba en los receptáculos hembra "COM" y "V-Ω".

