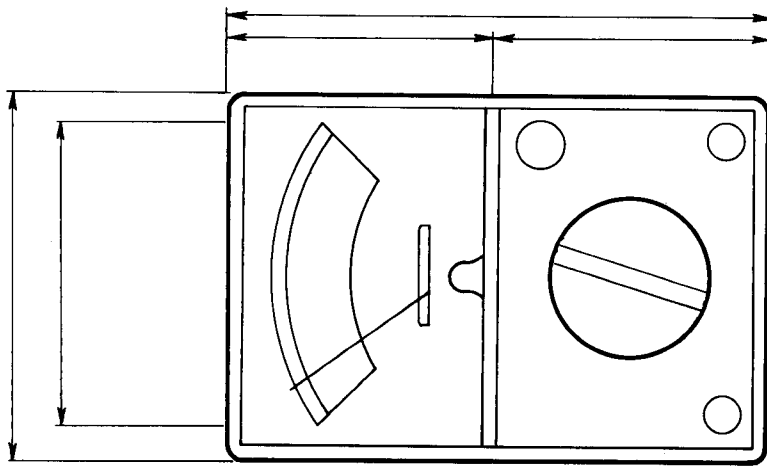




240

Multimeter

Owners Manual



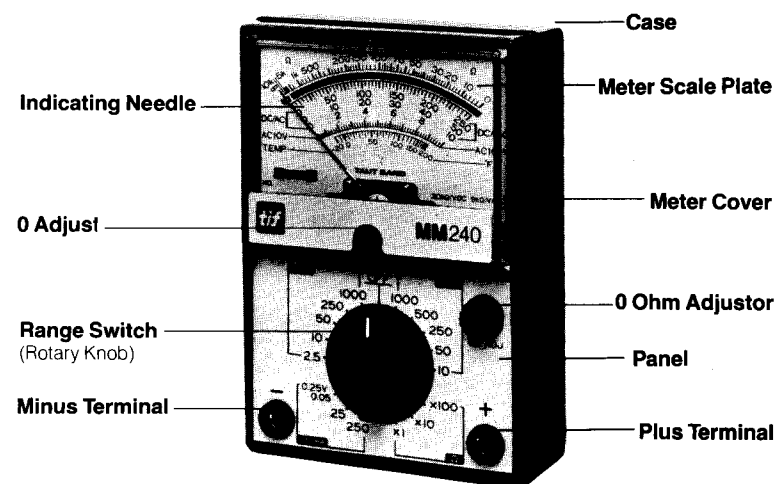
General Description

The TIF240 is a high quality precision multimeter with a parallax mirror and temperature scale, plus reinforced plug-jacks and banana-type plugs for low resistance contact. Besides voltage and current measurements it can be used for checking continuity in circuits, for finding defective components before installation, shorted capacitors, open or otherwise defective resistors, etc., shorts or openings in wiring.

Features

- Gold switch contacts.
- Two internal glass fuses (one .1A & one 1 Amp).
- Meter protection against heavy overloads.
- Heavy-duty function switch.
- Heavy-duty banana plug test leads.
- Equipped with parallax reflector to achieve excellent accuracy.
- Precision components used in construction.
- 18 useful ranges.
- Rugged high impact ABS plastic case.
- Fine heavy-duty carrying case.
- Designed for maximum operator convenience and utility.
- Taut Band Meter

The TIF240 Multimeter.



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Operating Instructions

Caution: For maximum safety do not handle meter when measuring high voltage.

Measuring DC volts

Rotate the selector switch to the appropriate range for DC Volts. Always start with the highest range if in doubt as to the approximate voltage being measured.

Caution: When using the DC volt ranges do not measure DC voltages with a high AC component.

Plug the red test probe into the (+) jack and the black test probe into (-) jack. Connect the test probes "ACROSS" the voltage source. The red lead is positive. Read the

DC voltage on the appropriate meter scale.

Measuring AC volts

Rotate the selector switch to the appropriate range for AC volts. Always start with the highest range if in doubt as to the approximate voltage being measured. Plug the red test probe into the (+) jack and the black test probe into the (-) jack. Connect the test probes across the voltage source and read the AC voltage on the appropriate meter scale.

Measuring Resistance

Rotate the selector switch to the appropriate resistance range. Plug

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the red test probe into the (+) jack and the black test probe into the (-) jack. Short the test probes together and adjust the ohms. ADJUST for zero on the ohms scale. Connect the test probes across the resistance to be measured. Read the resistance on the ohms scale utilizing the appropriate multiplication factor for the range being used. Readjust ohms ADJUST after changing ohmmeter ranges.

Caution: Disconnect all power to the circuit under test. **Do not leave instrument in ohms mode. Batteries will run down.**

Note: If ohms ADJUST control will not bring pointer to zero on ohms with test probes shorted, refer to instructions

for replacing **battery**. If no deflection of pointer occurs when test probes are shorted together refer to instructions for replacing **fuse**.

Measuring DC Current

Rotate the selector switch to the appropriate range for DC current. Always start with the highest range if in doubt as to the appropriate current being measured. Plug the red test probe into the (+) jack and the black test probe into the (-) jack. Connect the test probes, in "SERIES" with the current to be measured. The red test probe is positive. Read the DC current on the appropriate meter scales.

Measuring Temperature (See inside

back cover) (Optional Temperature Probe Accessory #245 is required) Rotate the selector switch to the RX100 range (OHMS) before attempting to measure temperatures. The temperature probe must be properly adjusted for zero in the ohms scale. Plug the temperature probe leads into the meter; the red into the (+) jack and the black (with the **insulated wire**) into the (-) jack.

Now, rotate the ohms ADJUST for zero on the ohms scale. Next, remove the black plug and plug in the other plug with the **uninsulated wire**.

Temperature can now be measured using the scale on the meter marked

TEMP. Readings are in degrees Fahrenheit.

Accuracy is specified at $\pm 2\%$ F.S. The range is -20 to 200°F .

To Measure AC Amps (See optional accessories)

Use the current transducer TIF244 optional accessory. Accuracy is specified $\pm 3\%$ F.S. Switch the TIF240 to the 0 to 10V AC scale, connect the leads to the TIF244 Current Transducer, clamp the jaws around a single conductor and read AC amps on the 0-10 AC volt scale. Multiply your reading by 10. Example: A reading of 5 volts would translate to 50 amps when using the current transducer.

Remove back cover. Replace only with a size AA. Be sure to observe polarity when replacing battery.

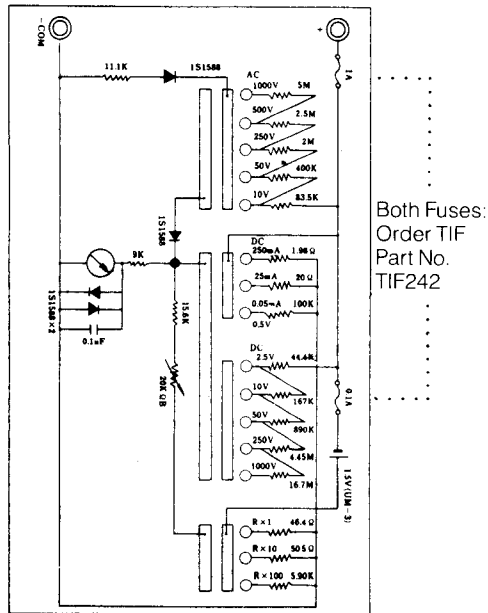
Caution: serious damage to the instrument may result if a fuse other than the type specified is used.

Fuses: Part #TIF242)

Remove back cover. Replace the ohms protection fuse with 1/10 A fuse. Replace volts protection fuse with 1 A fuse.

Meter Internal Resistance: $2.1\text{K}\Omega$

OHMS Center: 50Ω



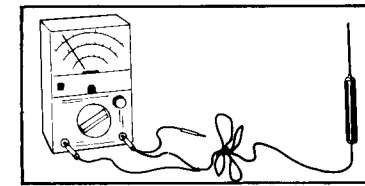
Switch the TIF240 to 0 to 10V AC scale, connect the Current Transducer leads to the TIF240, clamp the jaws around a single conductor and read AC amps on the 0-10 AC volt scale. Multiply your reading by 10. Example: A reading of 5 volts would translate to 50 amps when using the Current Transducer.

Range: 0-100 amps AC

Accuracy: $\pm 3\%$ of full scale

Dimensions: 5" x 2½" x 1¼"

Weight: 6 oz.



The TIF245 is a stainless steel temperature probe to be used with the TIF240 Multimeter. Allows the user to measure temperature from -20°F to 200°F .

Specifications:
Range: -20°F to 200°F

Weight: 2 oz.

Length: 46" Overall

Accuracy:

± 2°F (32° to 100°F)
± 3°F (−20° to 200°F)

Specifications

Ranges:
DC Volts—0.5V, 2.5V, 10V, 50V, 250V,
1000V at 22,200 ohms/volts.
AC Volts—10V, 50V, 250V, 500V, 1000V
at 10,000 ohms/volts.
Ohms—R x 1, R x 10, R x 100, (50 ohms
mid-scale).
DC Milliampers—.05mA, 25mA,
250mA at 250mV.

Accuracy:
±3% of full scale on all DC ranges.
±4% of full scale on all AC ranges, at
60cps for sine wave.
±3% for resistance measurement
with a new battery. (As referred to the
DC voltage scale.)

Fuse protection:
The TIF240 is provided with a 1/10
3AG (3 ohm) fuse.

Battery: The ohmmeter utilizes a single
AA battery.

Test leads:
One red lead and one black lead
supplied (heavy-duty). Banana type
plug for low resistance contact.

Size: 5" high x 3-7/16" wide x 1 5/8" deep
(12.7 cm x 8.7 cm x 4.1 cm).

Weight: Approx. 11 ounces (312 grams).

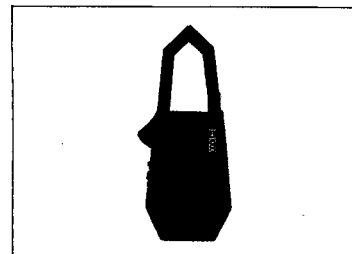
Operating temperature: 10°C to 40°C.

Meter sensitivity: 45 Microamps.

Meter internal resistance:
2.1K ohms (DC 22.2Kohms/V, AC
20Kohms/V).

Over-range capability: 15% minimum
(subject to meter protection limits).

Other TIF Products



AC Digital Clamp-on Volt-Ohm-Ammeter

Meet the original classic. Heavy-weight features. Champ of the digital clamp-on ammeters. Features like bright daylight LED's. Auto zero in all modes. Auto ranges 0 to 1000. Special fail safe features. Backed by a strong supporting system of accessories. Come see the TIF1000 in action today.

Model No. TIF1000
U.S. Patent #3,840,808

Limited Warranty and Repair/Exchange Policy

This instrument is designed and produced to provide unlimited service. Should the unit be inoperative after the user has performed the recommended maintenance a no-charge repair or replacement will be made to the original purchaser. This applies to all repairable instruments which have not been tampered with or damaged. The claim must be made within one year from the date of purchase. Repairable instruments, out of warranty, will be repaired or replaced for a nominal service charge. All returned units, out of warranty serviced F.O.B. Miami. An additional 90-day warranty will cover the repaired or replaced unit.