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› **Extech MG320 Insulation Tester User Manual**

Extech MG320

Extech MG320 Insulation Tester User Manual

Model: MG320

PRODUCT OVERVIEW

The Extech MG320 is a versatile instrument combining a portable 20GΩ/1000V insulation tester with a True RMS multimeter. It is designed for professionals needing to perform insulation resistance measurements and general electrical troubleshooting.

Key features include Polarization Index (PI) and Dielectric Absorption Ratio (DAR) modes, a programmable timer for test duration, and a comparator function for setting custom pass/fail criteria. The device offers 5 test voltage ranges and includes high voltage and overload indication for safety. It is rated CAT IV 600V for enhanced safety.

The MG320 allows for manual storage and recall of up to 99 readings, making it suitable for field use where data logging is required. It comes complete with test leads, an alligator clip, 6 AA batteries, and a soft carrying case.



Figure 1: Front view of the Extech MG320 Insulation Tester, showing the display, function dial, and input terminals.

SAFETY INFORMATION

Always adhere to local and national safety codes. Use personal protective equipment (PPE) as required. Ensure the device is in good working condition before use. Do not attempt to measure voltages or currents exceeding the specified maximum ratings.

- **CAT IV 600V Safety Rating:** This instrument is designed for measurements at the source of the low-voltage installation, such as electricity meters and primary overcurrent protection devices.
- Inspect test leads for damage before each use.
- Do not operate the meter if it appears damaged or if the case is open.

- Always disconnect power to the circuit under test before making connections for resistance or continuity measurements.
- Be aware of high voltage during insulation tests.

SETUP

Battery Installation

The Extech MG320 requires 6 AA batteries for operation. To install or replace batteries:

1. Ensure the meter is turned OFF.
2. Locate the battery compartment on the rear of the unit.
3. Use a screwdriver to open the battery compartment cover.
4. Insert 6 AA batteries, observing correct polarity (+/-).
5. Replace the battery compartment cover and secure it with the screw.

Connecting Test Leads

Connect the red test lead to the $V\Omega$ input terminal and the black test lead to the COM input terminal for most measurements. For insulation tests, connect the red lead to the V INSULATION terminal and the black lead to the EARTH terminal.

OPERATING INSTRUCTIONS

Insulation Resistance Measurement

The MG320 offers 5 test voltage ranges for insulation resistance. Always ensure the circuit under test is de-energized before performing insulation tests.

1. Turn the rotary switch to one of the INSULATION TEST voltage ranges (50V, 100V, 250V, 500V, 1000V).
2. Connect the test leads to the circuit or component to be tested.
3. Press the **TEST** button to initiate the insulation test. The display will show the resistance value.
4. Release the **TEST** button to stop the test.

True RMS Multimeter Functions

The MG320 also functions as a True RMS multimeter for various electrical measurements.

- **Voltage Measurement (AC/DC):** Turn the rotary switch to the $V\sim$ (AC) or $V-$ (DC) position. Connect test leads in parallel with the circuit.
- **Resistance Measurement (Ω):** Turn the rotary switch to the Ω position. Ensure the circuit is de-energized. Connect test leads across the component.
- **Continuity Test:** Turn the rotary switch to the continuity position. A built-in buzzer will sound if continuity is detected.



Figure 2: An electrician using the Extech MG320 to perform measurements within an electrical panel, demonstrating its application in industrial settings.

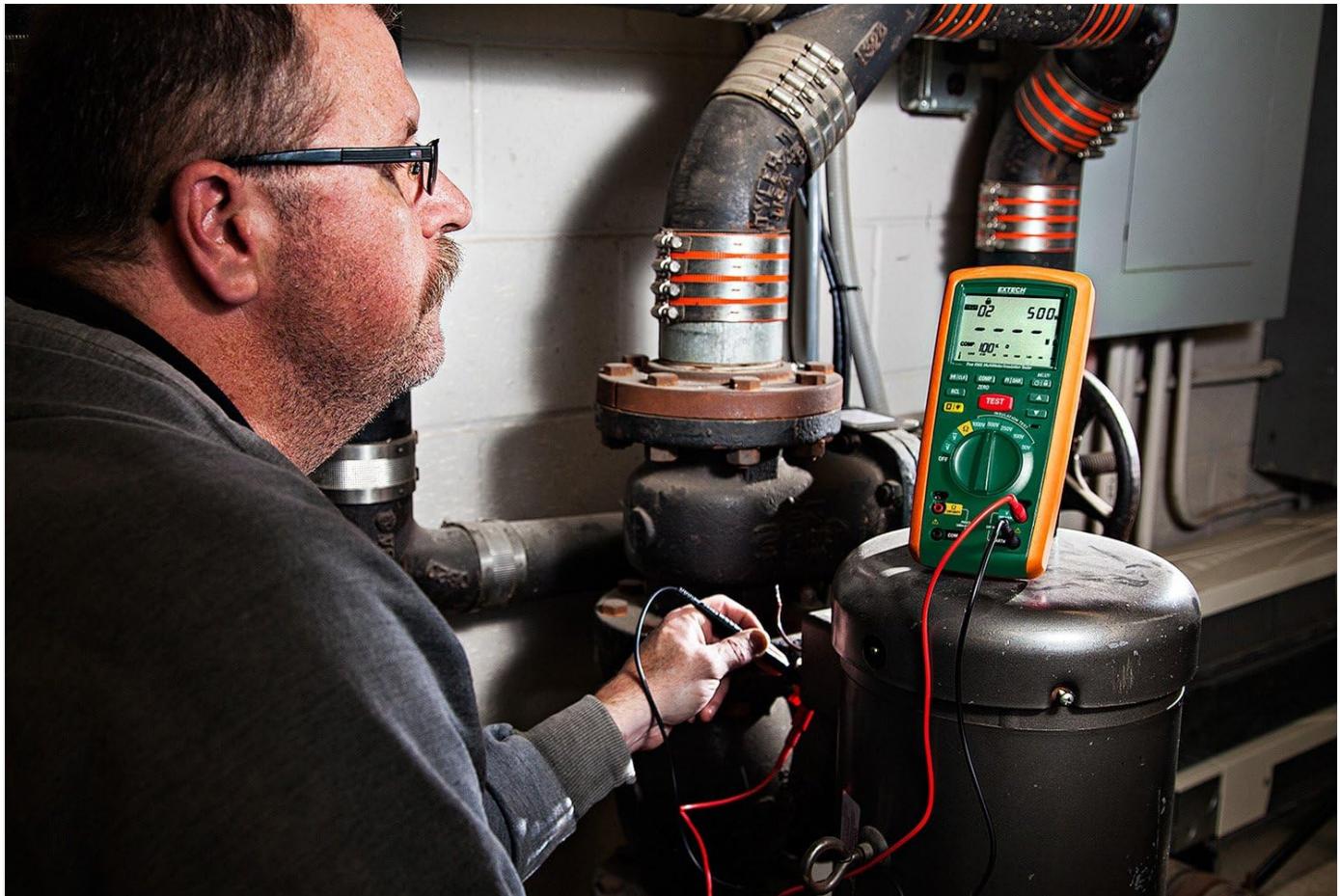


Figure 3: A technician conducting tests on industrial piping using the Extech MG320, highlighting its use in maintenance and troubleshooting.

MAINTENANCE

Cleaning

Wipe the meter with a dry, clean cloth. Do not use abrasives or solvents. Keep the display clean for optimal readability.

Battery Replacement

Replace batteries when the low battery indicator appears on the display to ensure accurate measurements. Refer to the "Battery Installation" section under Setup for detailed instructions.

Storage

If the meter is not used for an extended period, remove the batteries to prevent leakage and damage. Store the device in a cool, dry place, away from direct sunlight and extreme temperatures.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed batteries.	Check battery polarity; replace batteries.
Inaccurate readings.	Low battery, incorrect function selected, damaged test leads.	Replace batteries, verify function setting, inspect and replace test leads if damaged.
"OL" or Overload displayed.	Measurement exceeds the meter's range.	Select a higher range or ensure the measurement is within the meter's capabilities.

SPECIFICATIONS

Specification	Detail
Brand	Extech
Model	MG320
Insulation Resistance Range	Up to 20 GΩ
Test Voltages	50V, 100V, 250V, 500V, 1000V
Multimeter Type	True RMS
Safety Rating	CAT IV 600V
Power Source	6 x AA Batteries (included)
Item Weight	1.2 Pounds (approx. 0.54 kg)
Dimensions (L x W x H)	4 x 9 x 2.5 inches (approx. 10.16 x 22.86 x 6.35 cm)
Included Components	Test leads, alligator clip, 6 AA batteries, soft case

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Extech website or contact Extech customer service

directly. Keep your purchase receipt as proof of purchase for warranty claims.

Extech Contact Information:

Website: www.extech.com

Support: Refer to the website for regional support contacts.

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Related Documents - MG320

	<p>Extech ET40 Heavy Duty Continuity Tester User Manual</p> <p>User manual for the Extech ET40 Heavy Duty Continuity Tester. Learn how to safely and effectively test continuity of non-energized components, fuses, switches, relays, wiring, and circuit boards.</p>
	<p>EXTECH 40180 Tone Generator and Amplifier Probe User Manual</p> <p>User manual for the EXTECH 40180 Tone Generator and Amplifier Probe. Learn about its features, operation, specifications, and troubleshooting for cable tracing and phone line testing.</p>
	<p>Extech ET20 Dual Indicator Voltage Detector User Manual</p> <p>User manual for the Extech ET20 Dual Indicator Voltage Detector, a 2-Way AC/DC Voltage Tester (100-250V). Provides operation, warranty, and service information.</p>
	<p>Extech Multimeters: Comprehensive Guide to Digital Multimeters and Insulation Testers</p> <p>Explore the Extech range of digital multimeters (DMMs) and insulation testers, including series like EX300, EX350, EX360, EX400, EX500, MM750W, MG320, MG325, DM220, MN35/36, and 381676A. Features include True RMS, NCV, LPF, LoZ, temperature measurement, and wireless datalogging.</p>

 <p>EXTECH USER GUIDE Current Calibrator Model PRC10</p> <p>Additional User Manual Translations available at www.extech.com</p>	<p>Extech PRC10 Current Calibrator User Guide</p> <p>Comprehensive user guide for the Extech PRC10 Current Calibrator. Learn about its features, operation modes (Measure, Source), safety guidelines, specifications, and calibration services from Extech Instruments, a FLIR Systems company.</p>
 <p>EXTECH 375475 1-Outlet Programmable Digital Timer Model 375475</p> <p>Additional User Manual Translations available at www.extech.com</p>	<p>Extech 375475 Digital Timer User Manual</p> <p>User manual for the Extech 375475 Digital Timer, detailing setup, programming, and operation for controlling appliances.</p>