



## M500 Insulation Tester/Electronic Megohmmeter

An inexpensive alternative to expensive taut band (swing needle) megohmmeters, the M500 provides fast and accurate measurements to verify the condition of insulation.



### Features/Benefits

- Measure insulation values up to 1000 megohms @ 500 VAC
- Zone scale to indicate insulation condition
- Hand held
- Test Leads store in case
- Operates on 2 C batteries (not included)
- Impact resistant
- Soft carrying case included

### Applications

- Test motor winding insulation and diagnose heat damaged, deteriorating insulation in...
- Hermetic Refrigeration compressors
  - Appliances
  - Panel boards
  - Relay control circuits
  - Motors

### Specialty Instrument Selection Guide

- Measurement/Function - Insulation Resistance
- Range - 20 to 1000 megohms

### Standard Accessories

#### PART NO.

MCASE Soft Case



## M501 Insulation Tester/Electronic Megohmmeter

Enjoy the same great features of the M500 in a sturdy service case.



### Specialty Instrument Selection Guide

- Measurement/Function - Insulation Resistance
- Range - 20 to 1000 megohms

### Application Note:

#### Testing HVAC and Refrigeration Compressors and Motors

Many HVAC and Refrigeration motors require special test parameters since the winding operates in an oil and refrigerant atmosphere.

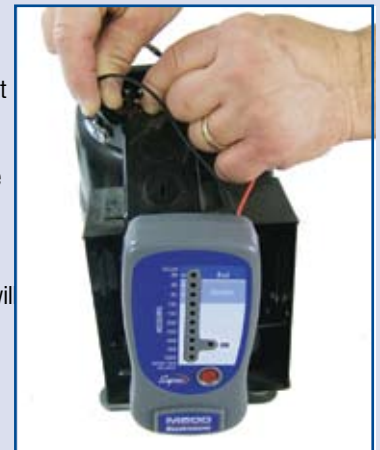
In a hermetic motor, under normal conditions the oil and refrigerant have a high electrical resistance. However, when they are contaminated with moisture, the electrical resistance changes and a low megohm reading of the winding terminal to ground may actually be the resistance of the contaminants in the oil and not in the winding insulation.

Newer motors have an insulation resistance value of more than 100 megohms, typically. Measurements of 50 megohms or less indicate a problem. Either the winding insulation is deteriorating or the oil/refrigerant is contaminated.

Installing an oversized drier may clean up the system or another possible solution could be replacing all the compressor oil. In either case, if the megohm tests show even the slightest improvement in resistance values the remedy may have checked a declining condition.

A good 'rule of thumb' is to smell a small sample of the oil. If the motor was ever severely overloaded, it will leave a tell tale trace in the oil that can only be removed by changing all of it.

The odor of burnt insulation is easily recognized and a low resistance value of 20 megohms or less will verify that the motor insulation may be severely damaged.



## MFD10 Digital Capacitor Tester

With one hand operation, the MFD10 provides the fastest measurements for capacitor values.



### Features/Benefits

- Range 0.01 to 10,000 mF
- Accuracy  $\pm 5\%$
- Test clip storage within case
- Alligator clips to capacitor terminals
- LED display
- One button operation
- Operates on one 9V Battery (not included)
- Soft carrying case included

### Applications

- Verification of Start and Run Capacitors
- Checks for open and short capacitors
- Identify unmarked capacitors
- Confirms weak capacitors
- Use as continuity tester

### Specialty Instrument Selection Guide

- Measurement/Function - Capacitance
- Range - 0.01 to 10,000 MFD

### Standard Accessories

#### PART NO.

MFDCASE Soft Case

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