

# METER READINESS CHECKLIST

MAKE SURE YOUR METER IS SAFE AND OPERATIONAL  
BEFORE MEASURING BEGINS

BROUGHT  
TO YOU BY **FLUKE**

Your electrical test meter is ON and you're ready to work. But is your meter ready? Is it safe? Before work commences, taking the time to analyze the status of your meters from a safety and an operational perspective — is an important step before any measurement work begins. Here are best practices:

## 1. Inspect your tools

National Fire Protection Association (NFPA) Standard 70E states that test tools must be visually inspected frequently to help detect damage and ensure proper operation.

- Check for broken case worn test leads or faded display.
- Inspect test leads and probes for frayed or broken wires. Be sure your leads have:
  - Shrouded connectors.
  - Finger guards.
  - CAT ratings that equal or exceed those of the meter.
  - Double insulation.
  - Minimum exposed metal on the probe tips.
- Use the meter's own continuity testing function to check for internal breaks. Check test lead resistance by:
  - Inserting leads in V/Ω and COM inputs.
  - Selecting Ω, touching probe tips and being sure the leads are 0.1 – 0.3Ω.

## 2. Ensure independent testing and certification

Be sure to find a multimeter that is independently tested. Rather than getting independent certification, some manufacturers simply state that their products are "designed to meet tough standards" for safety ruggedness and durability. It's critical to find one that has been independently tested by a third party verification lab such as:

- International Electrotechnical Commission (IEC), the standard setting organization for multimeters.
- Underwriters Laboratories, Inc. (UL), US-based safety organization.
- Canadian Standards Association (CSA), certification entity for the European community.
- ETL Testing Laboratories, Inc. (ETL) for US and Canada.
- TÜV SÜD (TUV), a safety agency based in Germany.

Continued on next page.

### 3. Use only IEC-rated test tools

NFPA 70E also requires the use of IEC (International Electrotechnical Commission) rated test tools. These tools should meet the following guidelines:

- Look for 600 volt or 1000 volt, CAT III or 600 volt, CAT IV rating on the front of meters and testers, and a “double insulated” symbol on the back.
- Check the manual to verify that the ohms and continuity circuits are protected to the same level as the voltage test circuit.
- Make sure that the amperage and voltage of the meter fuses meet specifications. Fuse voltage must be as high or higher than the meter’s voltage rating.
- Use the meter’s own test capability to ensure that the fuses are in place and working right.

**Step 1:** Plug test lead in V/Ω input. Select Ω.

**Step 2:** Insert probe tip into mA input. Read value.

**Step 3:** Insert probe tip into A input. Read value.

### 4. Verify the meter and accessories are appropriately rated and designed for the system and equipment to which they will be connected by looking for the following elements:

- DMM category rating.
- Test probe ratings.
- Are any components double-insulated?
- Is DMM NRTL listed?
- Are voltage and current probes NRTL (Nationally Recognized Testing Lab) listed?
- Is a magnetic hanger or other device needed to support the multimeter during use?

Using properly functioning tools is vital to help protect yourself from possible injury and death. Tools that have not been inspected for the above elements or that fail a pre-work inspection should be replaced with new tools from a leading manufacturer.