Fluke accessories are now Category IV safety rated

Fluke’s dual rated test leads
The test leads and probes listed below are all rated 1000 V CAT III and 600 V CAT IV 10 A, making them appropriate for use in most industrial and electrical applications

- **TL75 Hard Point Test Lead Set**
  - General-purpose replacement test lead for most Fluke DMMs and Clamps
  - Part No. 855705  cULus

- **TL24 Silicone Insulated Test Leads**
  - 1.5 meter long leads have a shrouded, right-angle connector on one end and a shrouded straight connector on the other
  - Part No. 874750  cULus

- **TL21A Test Lead Extension Kit**
  - 1.5 meter long silicone insulated test leads with shrouded, male connectors on both ends
  - Part No. 1278068  cULus

- **TL22 Silicone Insulated Test Leads**
  - 1.5 meter long leads have shrouded, right-angle connectors on both ends
  - Part No. 865527  cULus

- **TL21 Premium DMM Test Lead Set**
  - Recommended for µV measurements
  - Distinctive comfort grip probes
  - Part No. 1274382  cULus

- **TL24 Lantern Tip Test Lead Set**
  - Banana-style, spring contact tips are designed for probing European electrical sockets
  - Part No. 650876  cULus

- **AC72 Probe Tip Alligator Clips**
  - Alligator clip extensions for TL71 and TL75 test probes
  - Part No. 1670095  cULus

- **TP1 Slim Reach™ Test Probes**
  - The flat blade ideal for electrical wall sockets
  - Part No. 650887  cULus

- **TP2 Slim Reach™ Test Probes**
  - 2 mm diameter tip for precise electronic probing
  - Part No. 650892  cULus

- **TP4 Slim Reach™ Test Probes**
  - Versatile 4 mm test probe with 2 mm tip for precise probing
  - Part No. 650895  cULus

- **TP38 Insulated Tip Test Probes**
  - Insulated to 4 mm from end to meet UK safety regulations
  - Part No. 1541636

Your meter is only as safe as your accessories
Many Fluke test leads are now dual rated 1000 V CAT III and 600 V CAT IV to assure that they adhere to the same safety standards as Fluke’s meters. Check your accessories. Be sure their rating meets or exceeds the rating of your multimeter.

Fluke’s 170 Series and 180 Series digital multimeters are dual rated 1000 V CAT III and 600 V CAT IV, making them safe to use in more environments.
The increased occurrence and levels of transient overvoltages in today's power systems have given rise to more stringent safety standards for electrical measurement equipment. Transients that ride on top of power sources (mains, feeder or branch circuits) can trigger a sequence of events that may lead to serious injury. Test equipment must be designed to protect people working in this high-voltage, high-current environment.

The International Electrotechnical Commission, a developer of international general standards IEC-1010-1, specifies overvoltage categories for an electrical distribution system based on the distance from the power source and the natural damping of transient energy as it travels through the system. As you move closer to the power source (higher category number), a higher level of user protection is required.

- Category IV, called the primary supply level, refers to the overhead or underground utility service to an installation.
- Category III, called the distribution level, refers to mains voltage feeder or branch circuits.
- Category II circuits are typically separated from the utility service by at least a single level of transformer isolation. The equipment consists of fixed installations. Category II refers to the local level, to appliances, portable equipment, etc.
- Category I refers to the signal level, to the telecommunication, electronic equipment, etc.

Within each installation category there are voltage classifications. It is the combination of installation category and voltage classification which determines the maximum transient withstand capability of the instrument.

**Instruments are tested as follows:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Voltage</th>
<th>Test Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAT II</td>
<td>600 V</td>
<td>4000 V peak impulse transient 12 Ohm source</td>
</tr>
<tr>
<td>CAT II</td>
<td>1000 V</td>
<td>6000 V peak impulse transient 12 Ohm source</td>
</tr>
<tr>
<td>CAT III</td>
<td>600 V</td>
<td>6000 V peak impulse transient 2 Ohm source</td>
</tr>
<tr>
<td>CAT III</td>
<td>1000 V</td>
<td>8000 V peak impulse transient 2 Ohm source</td>
</tr>
<tr>
<td>CAT IV</td>
<td>600 V</td>
<td>8000 V peak impulse transient 2 Ohm source</td>
</tr>
</tbody>
</table>

To learn more about multimeter safety, see the [ABCs of DMM Safety application note](http://www.fluke.com) at www.fluke.com.

### Demarcation between Installation Categories III and IV

Demarcation between installation Categories III and IV is arbitrarily taken to be at the meter or at the mains disconnect (ANSI/NFPA 70-1990 [2], Article 230-70) for low-voltage service, or at the secondary of the service transformer if the service is provided to the user at a higher voltage.

For more information, see ISA-8582.01-1994, Annex J: Source: ANSI/IEEE C6241-1991

---

**Fluke: Keeping your world up and running.**

**Fluke Corporation**
PO Box 9090, Everett, WA USA 98206

**Fluke Europe B.V.**
PO Box 1186, 5602 BD Eindhoven, The Netherlands

For more information call:
In the U.S.A. (800) 443-5853 or Fax (425) 446-5116
In Europe/M-East/Africa (31 40) 2 675 200 or Fax (31 40) 2 675 222
In Canada (800)-36-FLUKE or Fax (905) 890-6866
From other countries +1 (425) 446-5500 or Fax +1 (425) 446-5116
Web access: [http://www.fluke.com/](http://www.fluke.com/)

©2002 Fluke Corporation. All rights reserved.
Trademarks are the property of their respective owners. Specifications subject to change without notice. Printed in U.S.A. 5/2002. 1988238 D-ENG-N Rev B