

# CTL DECISION SHEET

<b>Standard(s):</b> IEC 60065 IEC 60335 IEC 60950 IEC 61010 + any other as applicable	<b>Subclause(s):</b> 9.1.6 22.5 2.1.1.7 6.1.2, 6.10.3 ...	<b>No.</b>	<b>Year</b>
		DSH-0716	2008
<b>Category:</b> HOUS, MEAS, OFF, TRON, Various...		<b>Developed by:</b> WG2 WG4	
<b>Subject:</b> Probe impedance for plug discharge test	<b>Key words:</b> - Probe impedance - Plug discharge - $\geq 100 \text{ M}\Omega$ - 25 pF or less	Decision approved at the 2009 CTL Plenary Meeting	

**Question:**

When the plug discharge test is performed using a voltage probe and oscilloscope for direct measurement of the voltage decay, what probe impedance shall be used to ensure uniform and comparable results?

*Note: IEC 60950-1/2005 specifies  $100 \text{ M}\Omega \pm 5 \text{ M}\Omega$  in parallel with an input capacitance of  $20\text{pF} \pm 5 \text{ pF}$ .*

**Decision:**

If the relevant standard does not contain contradictory requirements, a voltage probe having an input impedance of  $100 \text{ M}\Omega$  or greater in parallel with an input capacitance of 25 pF or less, shall be used for this test.

For other (automatic) equipment with special measurement techniques equivalent measures shall be taken to ensure comparable results.

**Explanatory Notes:**

This issue was raised at the 2008 CTL meeting after discussing the proficiency testing program on plug discharge 2007/2008. Participants used several different probe impedances, which caused inconsistent results.