

## CTL DECISION SHEET

<b>Standard:</b> IEC 60730-1:1999 (3 <sup>rd</sup> ed.)+ A1:2003 + A2:2007	<b>Sub clause(s):</b> H.8.1.10.1	<b>Sheet n°:</b> <b>DSH 630</b>
<b>Subject:</b> Measure of "touch current" passing through protective impedance	<b>Key words:</b> - protective impedance - accessible parts - hazardous live parts	<b>Approved by the 45<sup>th</sup> CTL          Plenary meeting 2008</b>

**Question:**

In measuring current passing between accessible parts connected to hazardous live parts via protective impedance, the procedure stated in the standard is the following (sub-clause H.8.1.10.1):

*"Voltages and currents are measured between a single accessible part (or any combination of such parts) and either pole of the supply source."*

In a control to be incorporated in appliances where parts at extra-low voltage are connected to earth (PELV circuit connected to live parts through protective impedance), investigation on touch current shall be made against both poles of the supply source.

Making measurement of the touch current between an accessible PELV part and the line may result in stressing those components placed between protective extra-low voltage and the earthed reference.. The result will be a short circuiting of these weak components and applying 230 V, ac directly to the measuring network. In this case the major part of the current does not pass through the protective impedance and the peak current will be higher than 0,7 mA (peak value) which constitutes a failure of the test

Is this the correct methodology to follow?

**Decision:**

Clause H.8.1.10.1 of IEC 60730-1 addresses protection against electric shock due to a non-isolated circuit and therefore, the reference point shall be to the earthed (neutral) conductor rather than "either pole of the supply". This is consistent with the text of clause 5.1.4 of IEC 60950-1.

**Explanatory notes:**

CTL/ETF4 agrees that the measuring circuits and test methodology in IEC 60990 are appropriate to address the intent of this sub-clause. We shall not adopt this methodology in practice, until IEC 60730-1 makes the appropriate changes.