

INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC 62052-31
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**ELECTRICITY METERING EQUIPMENT (AC) –
GENERAL REQUIREMENTS, TESTS AND TEST CONDITIONS –**

Part 31: Product safety requirements and tests

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by subcommittee WG11: Electricity metering equipment, of IEC technical committee TC13: Electrical energy measurement and control.

The text of this interpretation sheet is based on the following documents:

DISH	Report on voting
13/1787/DISH	13/1789/RVDISH

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

<https://standards.iteh.ai/catalog/standards/iec/6b61193e-b306-4aea-b4eb-23c290954b79/iec-62052-31-2015-ish1-2019>

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6.7.1.3 – Requirement pertaining to classification of impulse withstand voltages (overvoltage categories)

This subclause specifies the following:

The impulse withstand voltage (overvoltage category, OVC) is used to classify equipment energized directly from the mains.

[...]

For metering equipment, overvoltage category III is taken as a basis for determining clearances. See also 1.4 and Annex K.

Background:

- in substations, auxiliary supply circuits of the meter may be energized from a d.c. supply, from an Uninterruptable Power Supply (UPS) or a dedicated a.c. supply that is independent of the mains to which the current and voltage circuits of the meter are connected;
- similarly, auxiliary circuits of the meter – like control circuits – may be connected to such circuits.

For equipment connected to such circuits generally OVC II applies.

This gives rise to the following question: Does OVC III apply to all HLV mains circuits and auxiliary circuits of the meter?

Interpretation

In general, meters shall be designed for OVC III. However, under the conditions described in the Background above, dimensioning the auxiliary supply and auxiliary circuits to meet OVC III requirements – as specified in 6.7.3 and 6.7.4 – is not justifiable.

They can be dimensioned to meet OVC II requirements provided that those circuits are clearly marked on the meter and identified in the Installation manual, User Manual and Maintenance manual and suitable warnings are provided.

It is then the responsibility of the installer to make sure that the circuits designed for OVC II are not connected to circuits that require OVC III or higher.

As IEC 62052-31:2015 specifies the insulation requirements and tests for OVC III only, such circuits shall be designed and tested according to the relevant clauses of IEC 61010-1.

NOTE During the upcoming revision of IEC 62052-31, requirements and tests for OVC II will be added.

6.8 – Insulation requirements between circuits and parts

This subclause specifies the following:

The following mains circuits shall be considered as hazardous live (HLV) circuits:

- *voltage and current circuits of direct connected and transformer operated meters;*
NOTE 2 Current circuits of CT operated meters are generally earthed.
- *neutral circuits;*
- *relays / control switches switching mains voltage;*
- *auxiliary supply circuits intended for connection to the mains.*

Background: Current circuits of transformer operated meters are generally earthed.

This gives rise to the following question: According to IEC 62052-31, what insulation requirements apply between current circuits of transformer operated meters and other circuits and parts?