

# INTERNATIONAL STANDARD

# IEC 62052-21

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## Electricity metering equipment (a.c.) – General requirements, tests and test conditions – Part 21: Tariff and load control equipment

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICITY METERING EQUIPMENT (AC) –  
GENERAL REQUIREMENTS, TESTS AND TEST CONDITIONS –**

**Part 21: Tariff and load control equipment**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62052-21 has been prepared by IEC technical committee 13: Equipment for electrical energy measurement and load control.

This standard, in conjunction with IEC 62054-11 and IEC 62054-21, cancels and replaces IEC 61038:1990, *Electricity metering – Tariff and load control – Particular requirements for time switches* and all amendments. This standard is to be used in conjunction with the relevant parts of the IEC 62054 and the IEC 62059 series.

The text of this standard is based on the following documents:

FDIS	Report on voting
13/1307/FDIS	13/1316/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until 2013. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this standard may be issued at a later date.

## INTRODUCTION

This standard distinguishes between protective class I and protective class II tariff and load control equipment.

The test levels are regarded as minimum values to guarantee the proper functioning of the equipment under normal working conditions. For special application, other test levels might be necessary and should be agreed on between the user and the manufacturer.

For information, the relevant parts of IEC 62052, IEC 62054 and IEC 62059 are listed:

IEC 62052-21 Electricity metering (a.c.) – General requirements, tests and test conditions – Part 21: Tariff and load control equipment

*(Replaces the general requirements of IEC 61037 and IEC 61038.)*

IEC 62054-11 Electricity metering (a.c.) – Tariff and load control – Part 11: Particular requirements for electronic ripple control receivers

*(Replaces the particular requirements of IEC 61037.)*

IEC 62054-21 Electricity metering (a.c.) – Tariff and load control – Part 21: Particular requirements for time switches<sup>1</sup>

*(Replaces the particular requirements of IEC 61038.)*

IEC 62059-11 Electricity metering equipment (a.c.) – Dependability – Part 11: General concepts

IEC 62059-21 Electricity metering equipment (a.c.) – Dependability – Part 21: Collection of meter dependability data from the field

IEC 62059-41 Electricity metering equipment (a.c.) – Dependability – Part 41: Reliability prediction<sup>2</sup>

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<sup>1</sup> To be published.

<sup>2</sup> To be published.

# ELECTRICITY METERING EQUIPMENT (AC) – GENERAL REQUIREMENTS, TESTS AND TEST CONDITIONS –

## Part 21: Tariff and load control equipment

### 1 Scope

This part of IEC 62052 specifies general requirements for the type test of newly manufactured indoor tariff and load control equipment, like electronic ripple control receivers and time switches that are used to control electrical loads, multi-tariff registers and maximum demand indicator devices.

This standard gives no requirements for constructional details internal to the tariff and load control equipment.

In the case where tariff and load control functionality is integrated into multifunction electricity metering equipment, the relevant parts of this standard apply.

This standard does not cover the acceptance tests and the conformity tests. Nevertheless, an example of what could be an acceptance test is given in Annex F.

The dependability aspect is covered by the documents of the IEC 62059 series.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-300:2001 *International Electrotechnical Vocabulary (IEV) – Electrical and electronic measurements and measuring instruments – Part 311: General terms relating to measurements – Part 312: General terms relating to electrical measurements – Part 313: Types of electrical measuring instruments – Part 314: Specific terms according to the type of instrument*

IEC 60060-1:1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60068-2-1:1990, *Environmental testing – Part 2: Tests – Tests A: Cold*

IEC 60068-2-2:1974, *Environmental testing – Part 2: Tests – Tests B: Dry heat*

IEC 60068-2-6:1995, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-27:1987, *Environmental testing – Part 2: Tests – Test Ea and guidance: Shock*

IEC 60068-2-30:1980, *Environmental testing – Part 2: Tests – Test Db and guidance: Damp heat, cyclic (12 + 12-hour cycle)*

IEC 60068-2-75:1997, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer test*

IEC 60085:1984, *Thermal evaluation and classification of electrical insulation*

IEC 60269-3-1:1994, *Low-voltage fuses – Part 3-1: Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications) – Sections I to IV*

IEC 60417-2:1998, *Graphical symbols for use on equipment – Part 2: Symbol originals*  
Amendment 1(2000)

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60695-2-10:2000, *Fire Hazard testing – Part 2-10: Glowing/hot-wire based test methods – Glow-wire apparatus and common test procedures*

IEC 60695-2-11:2000, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

IEC 60721-3-3:1994, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 3: Stationary use at weather protected locations*

IEC 61000-4-2:1995, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*. Basic EMC publication

IEC 61000-4-3:2002, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4:1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 4: Electrical fast transient/burst immunity test*. Basic EMC publication

IEC 61000-4-5:1995, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-6:1996, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 62054-11, *Electricity metering (a.c.) – Tariff and load control equipment – Part 11: Particular requirements for electronic ripple control tariff and load control equipment*<sup>3</sup>

IEC 62054-21, *Electricity metering (a.c.)– Tariff and load control equipment – Part 21: Particular requirements for time switches*<sup>3</sup>

CISPR 22:1997, *Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement*

ISO 75-2:1993, *Plastics – Determination of temperature of deflection under load – Part 2: Plastics and ebonite*

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<sup>3</sup> To be published.