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Edition 1.2 2022-11
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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

General requirements for arc fault detection and protection devices (AFDDs)

Exigences générales des dispositifs pour la détection et la protection de défaut d'arcs (DPDA)

IEC 62606:2013-07+AMD1:2017-02+AMD2:2022-11 CSV(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

GENERAL REQUIREMENTS FOR ARC FAULT DETECTION AND PROTECTION DEVICES (AFDDs)

FOREWORD

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IEC 62606 edition 1.2 contains the first edition (2013-07) [documents 23E/785/FDIS and 23E/797/RVD] and its corrigendum 1 (2013-11), its amendment 1 (2017-02) [documents 23E/993/FDIS and 23E/1003/RVD], and its amendment 2 (2022-11) [documents 23E/1267/FDIS and 23E/1304/RVD] and its corrigendum 1 (2023-03).

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendments 1 and 2. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 62606 has been prepared by subcommittee 23E: Circuit-breakers and similar equipment for household use, of IEC technical committee 23: Electrical accessories.

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

In this standard, the following print types are used:

- *compliance statements: in italic type.*

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the stability date indicated on the IEC web site under webstore.iec.ch in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

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INTRODUCTION

This International Standard aims to provide necessary requirements and testing procedures for devices to be installed by skilled people in households and similar uses to mitigate the risk of igniting an electrical fire downstream of the device.

Residual Current Devices (RCDs) are recognised as efficient to reduce the risk of fire by detection of leakage current and arcing to ground as a consequence of tracking currents within an electrical installation. However, RCDs as fuses or circuit-breakers are not able to reduce the risk of electrical fire due to series or parallel arcing between live conductors.

During a series arc fault, there is no leakage to ground therefore RCDs cannot detect such a fault. Moreover, the impedance of the series arc fault reduces the load current, which will keep the current below the tripping threshold of the circuit-breaker and the fuse. In the case of a parallel arc between phase and neutral conductor, the current is only limited by the impedance of the installation. In the worst cases of sporadic arcs, the conventional circuit breakers were not designed for that purpose.

Experience and information available confirmed that the r.m.s. current value of an earth fault current caused by an arcing fault, which is able to ignite a fire, is not limited to the rated power supply frequency of 50/60 Hz, but may contain a much higher frequency spectrum that is not taken into account for the testing of RCDs.

It has been recognised that the risk of igniting a fire within an electrical installation can also be a consequence of an overvoltage due to a broken neutral in a three phase installation.

This ~~standard~~ document covers devices designed to be installed in a distribution board at the origin of one ~~or several~~ final circuit~~s~~ of a fixed installation.