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BASIC SAFETY PUBLICATION

Effects of current on human beings and livestock – Part 2: Special aspects

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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EFFECTS OF CURRENT ON HUMAN BEINGS AND LIVESTOCK –

Part 2: Special aspects

FOREWORD

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Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 60479-2, which is a Technical Specification, has been prepared by IEC technical committee 64: Electrical installations and protection against electric shock.

This fourth edition cancels and replaces the third edition, published in 2007. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- Changes reflecting the change in applicability of frequency from 1 kHz to 150 kHz have been added.
- The examination of random complex irregular waveforms has been added.
- The handling of successive DC pulses has been clarified.

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Draft TS	Report on voting
64/2143/DTS	64/2166/RVDTS

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This Technical Specification has the status of a basic safety publication in accordance with IEC Guide 104.

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

A list of all parts in the IEC 60479 series, published under the general title *Effects of current on human beings and livestock*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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EFFECTS OF CURRENT ON HUMAN BEINGS AND LIVESTOCK –

Part 2: Special aspects

1 Scope

This part of IEC 60479 describes the effects on the human body when a sinusoidal alternating current in the frequency range above 100 Hz passes through it.

The effects of current passing through the human body for:

– alternating sinusoidal current with DC components;
– alternating sinusoidal current with phase control;
– alternating sinusoidal current with multicycle control

are given but are only deemed applicable for alternating current frequencies from 15 Hz up to 100 Hz.

~~NOTE 1 Other waveforms are under consideration.~~

Means of extending the frequency of applicability of pure sinusoids to a frequency of 150 kHz are given, supplementing the data in IEC TS 60479-1.

Means of examining random complex irregular waveforms are given.

This document describes the effects of current passing through the human body in the form of single and multiple successive unidirectional rectangular impulses, sinusoidal impulses and impulses resulting from capacitor discharges.

~~NOTE 2 The effects of sequences of impulses are under consideration.~~

The values specified are deemed to be applicable for impulse durations from 0,1 ms up to and including 10 ms. ~~For impulse durations greater than 10 ms, the values given in Figure 20 of IEC 60479-1 apply.~~

This document only considers conducted current resulting from the direct application of a source of current to the body, as does IEC TS 60479-1 and IEC TS 60479-3. It does not consider current induced within the body caused by its exposure to an external electromagnetic field.

This basic safety publication is primarily intended for use by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 104 and ISO/IEC Guide 51. It is not intended for use by manufacturers or certification bodies.

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IEC TS 60479-1:2005, *Effects of current on human beings and livestock – Part 1: General aspects*
IEC TS 60479-1:2005/AMD1:2016

~~IEC 60479-3, *Effects of current on human beings and livestock – Part 3: Effects of currents passing through the body of livestock*~~

IEC 60990, *Methods of measurement of touch-current and protective conductor current*

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

IEC Guide 104, *The preparation of safety publications and the use of basic safety publications and group safety publications*

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Edition 4.0 2017-10

TECHNICAL SPECIFICATION

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BASIC SAFETY PUBLICATION

Effects of current on human beings and livestock – Part 2: Special aspects



IEC TS 60479-2:2017-10(en)

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