IEC 61869-2

Edition 1.0 2012-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Instrument transformers –
Part 2: Additional requirements for current transformers

Transformateurs de mesure –
Partie 2: Exigences supplémentaires concernant les transformateurs de courant

IEC 61869-2:2012

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INSTRUMENT TRANSFORMERS –

Part 2: Additional requirements for current transformers

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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This International Standard IEC 61869-2 Ed.1.0 has been prepared by committee 38: Instrument transformers.

This first edition of IEC 61869-2 cancels and replaces the first edition of IEC 60044-1, published in 1996, and its Amendment 1 (2000) and Amendment 2 (2002), and the first edition of IEC 60044-6, published in 1992. Additionally it introduces technical innovations in the standardization and adaptation of the requirements for current transformers for transient performance.

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

FDIS	Report on voting
38/435/FDIS	38/437/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.

A list of all the parts in the IEC 61869 series, published under the general title *Instrument transformers*, can be found on the IEC website.

This Part 2 is to be used in conjunction with, and is based on, IEC 61869-1:2007, *General Requirements* – however the reader is encouraged to use its most recent edition.

This Part 2 follows the structure of IEC 61869-1:2007 and supplements or modifies its corresponding clauses.

When a particular clause/subclause of Part 1 is not mentioned in this Part 2, that clause/subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

For additional clauses, subclauses, figures, tables, annexes or notes, the following numbering system is used:

– clauses, subclauses, tables, figures and notes that are numbered starting from 201 are additional to those in Part 1;
– additional annexes are lettered 2A, 2B, etc.

An overview of the planned set of standards at the date of publication of this document is given below. The updated list of standards issued by IEC TC 38 is available at the website: www.iec.ch.

PRODUCT FAMILY STANDARDS		PRODUCT STANDARD	PRODUCTS	OLD STANDARD
		61869-2	ADDITIONAL REQUIREMENTS FOR CURRENT TRANSFORMERS	60044-1 60044-6
		61869-3	ADDITIONAL REQUIREMENTS FOR INDUCTIVE VOLTAGE TRANSFORMERS	60044-2
		61869-4	ADDITIONAL REQUIREMENTS FOR COMBINED TRANSFORMERS	60044-3
		61869-5	ADDITIONAL REQUIREMENTS FOR CAPACITIVE VOLTAGE TRANSFORMERS	60044-5
61869-1:2007 GENERAL REQUIREMENTS FOR INSTRUMENT TRANSFORMERS	**61869-6** ADDITIONAL GENERAL REQUIREMENT FOR ELECTRONIC INSTRUMENT TRANSFORMERS AND LOW POWER STAND ALONE SENSORS	**61869-7**	ADDITIONAL REQUIREMENTS FOR ELECTRONIC VOLTAGE TRANSFORMERS	60044-7
		61869-8	ADDITIONAL REQUIREMENTS FOR ELECTRONIC CURRENT TRANSFORMERS	60044-8
		61869-9	DIGITAL INTERFACE FOR INSTRUMENT TRANSFORMERS	
		61869-10	ADDITIONAL REQUIREMENTS FOR LOW-POWER STAND-ALONE CURRENT SENSORS	
		61869-11	ADDITIONAL REQUIREMENTS FOR LOW POWER STAND ALONE VOLTAGE SENSOR	60044-7
		61869-12	ADDITIONAL REQUIREMENTS FOR COMBINED ELECTRONIC INSTRUMENT TRANSFORMER OR COMBINED STAND ALONE SENSORS	
		61869-13	STAND ALONE MERGING UNIT	

Since the publication of IEC 60044-6 (*Requirements for protective current transformers for transient performance*) in 1992, the area of application of this kind of current transformers has been extended. As a consequence, the theoretical background for the dimensioning according to the electrical requirements has become much more complex. In order to keep this standard as user-friendly as possible, the explanation of the background information will be transferred to the Technical Report IEC 61869-100 TR, which is now in preparation.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://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.

INSTRUMENT TRANSFORMERS –

Part 2: Additional requirements for Current Transformers

1 Scope

This part of IEC 61869 is applicable to newly manufactured inductive current transformers for use with electrical measuring instruments and/or electrical protective devices having rated frequencies from 15 Hz to 100 Hz.

2 Normative references

Clause 2 of IEC 61869-1:2007 is applicable with the following additions:

IEC 61869-1:2007, *Instrument Transformers – Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions of IEC 61869-1:2007 apply with the following additions:

3.1 General definitions

3.1.201
current transformer
instrument transformer in which the secondary current, under normal conditions of use, is substantially proportional to the primary current and differs in phase from it by an angle which is approximately zero for an appropriate direction of the connections

[SOURCE: IEC 60050-321:1986, 321-02-01]

3.1.202
measuring current transformer
current transformer intended to transmit an information signal to measuring instruments and meters

[SOURCE: IEC 60050-321:1986, 321-02-18]

3.1.203
protective current transformer
a current transformer intended to transmit an information signal to protective and control devices

(SOURCE: IEC 60050-321: 1986, 321-02-19)

3.1.204
class P protective current transformer
protective current transformer without remanent flux limit, for which the saturation behaviour in the case of a symmetrical short-circuit is specified

3.1.205
class PR protective current transformer
protective current transformer with remanent flux limit, for which the saturation behaviour in the case of a symmetrical short-circuit is specified