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**Instrument transformers - Part 1: Current transformers**

Instrument transformers -- Part 1: Current transformers

Messwandler -- Teil 1: Stromwandler

Transformateurs de mesure -- Partie 1: Transformateurs de courant

**Ta slovenski standard je istoveten z: EN 60044-1:1999**[SIST EN 60044-1:2001](https://standards.iteh.ai/catalog/standards/sist/ea0eca1d-461d-400c-8559-a8d1f2567e2d/sist-en-60044-1-2001)<https://standards.iteh.ai/catalog/standards/sist/ea0eca1d-461d-400c-8559-a8d1f2567e2d/sist-en-60044-1-2001>**ICS:**

17.220.20	T ^  b } b ^  d ä } ä ä	Measurement of electrical and magnetic quantities
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**SIST EN 60044-1:2001****en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60044-1**

August 1999

ICS 17.220.20

Supersedes HD 553 S2:1993

English version

**Instrument transformers**  
**Part 1: Current transformers**  
(IEC 60044-1:1996, modified)

Transformateurs de mesure  
Partie 1: Transformateurs de courant  
(CEI 60044-1:1996, modifiée)

Meßwandler  
Teil 1: Stromwandler  
(IEC 60044-1:1996, modifiziert)

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This European Standard was approved by CENELEC on 1999-08-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

### Foreword

The text of the International Standard IEC 60044-1:1996, prepared by IEC TC 38, Instrument transformers, together with common modifications prepared by the Technical Committee CENELEC TC 38X, Instrument transformers, was submitted to the formal vote and was approved by CENELEC as EN 60044-1 on 1999-08-01.

This European Standard supersedes HD 553 S2:1993.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2000-08-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2002-01-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A and ZA are normative and annex B is informative.

Annex ZA has been added by CENELEC.

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**Endorsement notice**

The text of the International Standard IEC 60044-1:1996 was approved by CENELEC as a European Standard with agreed common modifications as given below.

**COMMON MODIFICATIONS****1.1 Add at the end of the scope:**

Instrument transformers (ITs) are considered to be passive elements.

NOTE: For outdoor ITs having voltages  $\geq 123$  kV the RIV measurements are suitable to cover the requirements of EMC Directive. For guidance of the test procedure EN 60694:1996, § 6.3 might be followed.

**2.1.27 Add at the end of the subclause:**

Rated times other than one second, such as 0,5 s, 2 s and 3 s may be agreed.

**4.5.1 Replace "(see 2.1.25)" by "(see 2.1.27)".****4.5.2 Replace "(see 2.1.26)" by "(see 2.1.28)".****Table 4 Replace the 3rd row of values by the following:**

420	950	1300
	1050	1425

*(The remaining part of the table shall remain as it is).*

**10.1.2 Replace the sentence before Table 10 by the following:**

The preferred terminal markings of current transformers are given in the following table 10.

## Annex ZA (normative)

Normative references to international publications  
with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60028	1925	International standard of resistance for copper	-	-
IEC 60038 (mod)	1983	IEC standard voltages <sup>1)</sup>	HD 472 S1	1989
IEC 60050-321	1986	International electrotechnical vocabulary Chapter 321: Instrument transformers	-	-
IEC 60060-1 + corr. March	1989 1990	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1	1991
IEC 60071-1	1993	Insulation co-ordination Part 1: Definitions, principles and rules	EN 60071-1	1995
IEC 60085	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
IEC 60121	1960	Recommendation for commercial annealed aluminium electrical conductor wire	-	-
IEC 60270	1981	Partial discharge measurements	-	-
IEC 60567	1992	Guide for the sampling of gases and of oil from oil-filled electrical equipment and for the analysis of free and dissolved gases	EN 60567	1992
IEC 60599	1978	Interpretation of the analysis of gases in transformers and other oil-filled electrical equipment in service	HD 397 S1 <sup>2)</sup>	1979
IEC 60721	series	Classification of environmental conditions	EN 60721 HD 478.2	series series

1) The title of HD 472 S1 is: *Nominal voltages for low voltage public electricity supply systems.*

2) HD 397 S2 is superseded by EN 60599:1999, which is based on IEC 60599:1999.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60815	1986	Guide for the selection of insulators in respect of polluted conditions	-	-

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**NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
IEC  
44-1**

Première édition  
First edition  
1996-12

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**Transformateurs de mesure —**

**Partie 1:  
Transformateurs de courant**

**iTeh STANDARD PREVIEW**

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**Instrument transformers —**

**Part 1: SIST EN 60044-1:2001  
Current transformers 001**

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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**W**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INSTRUMENT TRANSFORMERS –  
Part 1: Current transformers**

## FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 44-1 has been prepared by IEC technical committee 38: Instrument transformers.

This standard cancels and replaces the second edition of IEC 185 published in 1987, amendment 1 (1990) and amendment 2 (1995).

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

FDIS	Report on voting
38/161/FDIS	38/174/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.

Annex A forms an integral part of this standard.

Annex B is for information only.

# INSTRUMENT TRANSFORMERS –

## Part 1: Current transformers

### 1 General

#### 1.1 Scope

This part of IEC 44 applies to newly manufactured current transformers for use with electrical measuring instruments and electrical protective devices at frequencies from 15 Hz to 100 Hz.

Although the requirements relate basically to transformers with separate windings, they are also applicable, where appropriate, to autotransformers.

Clause 11 covers the requirements and tests, in addition to those in clauses 3 to 10, that are necessary for current transformers for use with electrical measuring instruments.

Clause 12 covers the requirements and tests, in addition to those in clauses 3 to 10, that are necessary for current transformers for use with electrical protective relays, and in particular for forms of protection in which the prime requirement is the maintenance of accuracy up to several times the rated current.

For certain protective systems, where the current transformer characteristics are dependant on the overall design of the protective equipment (for example high-speed balanced systems and earth-fault protection in resonant earthed networks), additional requirements may be necessary.

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Current transformers intended for both measurement and protection shall comply with all the clauses of this standard.

[SIST EN 60044-1:2001  
https://standards.iteh.ai/catalog/standards/sist/ea0eca1d-461d-400c-8559-a8d1f2567e2d/sist-en-60044-1-2001](https://standards.iteh.ai/catalog/standards/sist/ea0eca1d-461d-400c-8559-a8d1f2567e2d/sist-en-60044-1-2001)

#### 1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 44. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 44 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 28: 1925, *International standard of resistance for copper*

IEC 38: 1983, *IEC standard voltages*

IEC 50(321): 1986, *International Electrotechnical Vocabulary – Chapter 321: Instrument transformers*

IEC 60-1: 1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 71-1: 1993, *Insulation co-ordination – Part 1: Definitions, principles and rules*

IEC 85: 1984, *Thermal evaluation and classification of electrical insulation*

IEC 121: 1960, *Recommendation for commercial annealed aluminium electrical conductor wire*

IEC 270: 1981, *Partial discharge measurements*