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Industriella termoelement – Del 3: Anslutningskablar och kompensationskablar – Toleranser och märkning

*Thermocouples –
Part 3: Extension and compensating cables –
Tolerances and identification system*

Som svensk standard gäller europastandarden EN IEC 60584-3:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60584-3:2021.

Nationellt förord

Europastandarden EN IEC 60584-3:2021

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60584-3, Third edition, 2021 - Thermocouples - Part 3: Extension and compensating cables - Tolerances and identification system**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60584-3, utgåva 1, 2008, gäller ej fr o m 2024-03-23.

Standarder underlättar utvecklingen och höjer elsäkerheten

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English Version

**Thermocouples - Part 3: Extension and compensating cables -
Tolerances and identification system
(IEC 60584-3:2021)**

Couples thermoélectriques - Partie 3: Câbles d'extension et
de compensation - Tolérances et système d'identification
(IEC 60584-3:2021)

Thermopaare - Teil 3: Thermoleitungen und
Ausgleichsleitungen - Grenabweichungen und
Kennzeichnungssystem
(IEC 60584-3:2021)

This European Standard was approved by CENELEC on 2021-03-23. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 65B/1189/FDIS, future edition 3 of IEC 60584-3, prepared by SC 65B "Measurement and control devices" of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60584-3:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-12-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-03-23

This document supersedes EN 60584-3:2008 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60584-3:2021 was approved by CENELEC as a European Standard without any modification.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60584-1	-	Thermocouples - Part 1: EMF specifications and tolerances	EN 60584-1	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

THERMOCOUPLES –

**Part 3: Extension and compensating cables –
Tolerances and identification system**

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 60584-3 has been prepared by subcommittee 65B: Measurement and control devices, of IEC Technical Committee 65: Industrial-process measurement, control and automation.

This third edition cancels and replaces the second edition issued in 2007. This edition constitutes a technical revision.

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

- a) revision of tolerance values to take recent technological advancement into account,
- b) addition of new colour coding for the thermocouple Type C and A in response to the newly revised IEC 60584-1 Edition 3: 2013,
- c) creation of an annex to provide examples of sizes for the rod, flat wire and strip of the compensating and extending conductors for thermocouples.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
65B/1189/FDIS	65B/1191/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts of the IEC 60584 series, under the general title *Thermocouples*, can be found on the IEC website.

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

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

THERMOCOUPLES –

Part 3: Extension and compensating cables – Tolerances and identification system

1 Scope

It is necessary for thermocouple temperature measurement that the electro-motive force (abbreviated as e.m.f. hereafter) of the thermocouple circuit is precisely measured by a measuring instrument. A thermocouple is electrically connected to the instrument by a proper pair of electric cables. IEC 60584-3 standardizes these cables. It specifies identification and manufacturing tolerances for extension and compensating cables (mineral insulated extension and compensating cables are not included) provided directly to users of industrial processes. These tolerances are determined with respect to the e.m.f. versus temperature relationship of IEC 60584-1. The requirements for extension and compensating cables for use in industrial process control are specified.

Extension and compensating cables may consist of a single strand (solid) wire or multi-stranded wire for which this document is applied. Specification for extension and compensating conductors of forms of rods, flat wires or strips can be established by agreement between suppliers and users.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*