Connectors for thermoelectric sensors



EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

			This Estonian standard EVS-EN 50212:2020 consists of the English text of the European standard EN 50212:2020.
- 1	Standard on jõustunud sellekohase avaldamisega EVS Teatajas.	teate	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
	Euroopa standardimisorganisatsioonid on t Euroopa standardi rahvuslikele liikn kättesaadavaks 01.05.2020.		Date of Availability of the European standard is 01.05.2020.
	Standard on kättesaadav Standardikeskusest.	Eesti	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile <u>standardiosakond@evs.ee</u>.

ICS 93.120

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega: Koduleht <u>www.evs.ee</u>; telefon 605 5050; e-post <u>info@evs.ee</u>

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 50212

May 2020

ICS 93.120

Supersedes EN 50212:1996 and all of its amendments and corrigenda (if any)

English Version

Connectors for thermoelectric sensors

Connecteurs pour capteurs thermoélectriques

Steckverbindungen für Thermoelemente

This European Standard was approved by CENELEC on 2020-03-09. 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

Com	tents	Page
Europ	ean foreword	3
1	Scope	
2	Normative References	4
3	Terms and definitions	4
4 4.1 4.1.1 4.1.2 4.2	General Connector types Connectors with specified dimensional characteristics Other connectors Marking for identification and polarities	4 4 4
5 5.1 5.2 5.3 5.4	Electrical characteristics	5 6 6 7
6	Dimensional characteristics	7
7 7.1 7.2 7.3	Physical characteristics Housing Metal parts (pin, socket contact) connected to the cables to be linked together Connections	11 12 12
Biblio	graphy	13
IEC 60	0584.s	
Figure	e 1 — Test set up for insertion error verification	6
Figure	e 2 — A type connector with 2 pins	8
	e 3 — A type connector with 3 pins	
Figure	e 4 — B type connector with 2 pins	10
Figure	e 5 — B type connector with 3 pins	11
Tables		
Table	t — Marking of thermocouple types	5
Table :	2 — Materials of thermocouple types	12

European foreword

This document (EN 50212:2020) has been prepared by CLC/TC 65X "Industrial-process measurement, control and automation".

The following dates are fixed:

- latest date by which this document has 2021-03-09 (dop) to be implemented at national level by publication of an identical national standard or by endorsement
- latest date by which the national (dow) 2023-03-09 standards conflicting with this document have to be withdrawn

This document supersedes EN 50212:1996 and all of its amendments and corrigenda (if any).

so. ponsib. 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.

1 Scope

The object of this document is to determine the composition, nature of materials, manufacturing tests and thermoelectronic behaviour of connectors for sensors using thermocouples according to EN 60584-3:2008.

This document does not cover such special thermocouples as U, L and W types; nevertheless, the user of such special thermocouples can use the connectors described hereafter with some restrictions mentioned in the relevant paragraphs.

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 (series), Thermocouples

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

4 General

4.1 Connector types

4.1.1 Connectors with specified dimensional characteristics

They are defined in this standard by their dimensional, physical, electrical and chemical characteristics.

The types retained in this standard are:

- A type: connectors with cylindrical pins and cylindrical sockets;
- B type: connectors with flat pins and flat sockets.

4.1.2 Other connectors

The electrical characteristics are identical to those defined for connectors described in 4.1.1. Withdrawal tests, waterproof and dustproof tests, corrosion tests, test for resistance to heat will be stated by the manufacturer as list of technical characteristics.

The dimensional, physical and chemical characteristics peculiar to each manufacturer are not specified.

4.2 Marking for identification and polarities

The connectors shall comprise a permanent colour marking, e.g. either indelible superficial or mass colouring, or recessed coloured dots or coloured rings, etc.

At least the + polarity shall be indicated be permanent marking. Though non-compulsory, to avoid confusion with previous markings, or markings in other standards, the thermocouple type may be also additionally indicated, see Table 1.