This document is a preview generated by EVS

ELEKTRILISED MÕÕTMIS-, JUHTIMIS- JA LABORATOORIUMISEADMED. ELEKTROMAGNETILISE ÜHILDUVUSE NÕUDED. OSA 2-3: ERINÕUDED. SISSEEHITATUD VÕI KAUGSIGNALISATSIOONIL PÕHINEVATE ANDURITE KATSETAMISVIISID, KÄIDUTINGIMUSED JA TOIMIVUSKRITEERIUMID

Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

This document is a preview generated by EVS

See Eesti standard EVS-EN IEC 61326-2-3:2021 sisaldab Euroopa standardi EN IEC 61326-2-3:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61326-2-3:2021 consists of the English text of the European standard EN IEC 61326-2-3:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.06.2021.	Date of Availability of the European standard is 04.06.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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

ICS 17.220.20, 25.040.40, 33.100.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

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

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis-ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

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

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 and Accreditation.

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

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

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61326-2-3

June 2021

ICS 25.040.40; 17.220.20; 33.100.20

Supersedes EN 61326-2-3:2013 and all of its amendments and corrigenda (if any)

English Version

Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning (IEC 61326-2-3:2020)

Matériel électrique de mesure, de commande et de laboratoire - Exigences relatives à la CEM - Partie 2-3: Exigences particulières - Configurations d'essai, conditions de fonctionnement et critères de performance des transducteurs avec un système de conditionnement du signal intégré ou à distance (IEC 61326-2-3:2020)

Elektrische Mess-, Steuer-, Regel- und Laborgeräte - EMV-Anforderungen - Teil 2-3: Besondere Anforderungen - Prüfanordnung, Betriebsbedingungen und Leistungsmerkmale für Messgrößenumformer mit integrierter oder abgesetzter Signalaufbereitung (IEC 61326-2-3:2020)

This European Standard was approved by CENELEC on 2020-11-30. 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

© 2021 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

Ref. No. EN IEC 61326-2-3:2021 E

This document is a preview generated by EVS

European foreword

The text of document 65A/980/FDIS, future edition 3 of IEC 61326-2-3, prepared by SC 65A "System aspects" 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 61326-2-3:2021.

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) 2021-12-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-06-04

This document supersedes EN 61326-2-3:2013 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.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

Endorsement notice

The text of the International Standard IEC 61326-2-3:2020 was approved by CENELEC as a European Standard without any modification.

This document is a preview generated by EVS

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.

The Annex ZA of EN IEC 61326-1:2021 applies with the following additions:

Publication	Year	Title	EN/HD	Year
IEC 61326-1	2020	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements	EN IEC 61326-1	2021

This document is a preview generated by EVS

IEC 61326-2-3

Edition 3.0 2020-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

This document is a preview generated by EVS

Electrical equipment for measurement, control and laboratory use – EMC requirements –
Part 2-3: Particular requirements – Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

Matériel électrique de mesure, de commande et de laboratoire – Exigences relatives à la CEM –
Partie 2-3: Exigences particulières – Configurations d'essai, conditions de fonctionnement et critères de performance des transducteurs avec un système de conditionnement du signal intégré ou à distance



IEC 61326-2-3:2020-10(en-fr)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2020 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,…). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary
67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,…). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

Electropedia - www.electropedia.org
Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary
67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

This document is a preview generated by EVS

IEC 61326-2-3

Edition 3.0 2020-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

This document is a preview generated by EVS

Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 2-3: Particular requirements – Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

Matériel électrique de mesure, de commande et de laboratoire – Exigences relatives à la CEM – Partie 2-3: Exigences particulières – Configurations d'essai, conditions de fonctionnement et critères de performance des transducteurs avec un système de conditionnement du signal intégré ou à distance

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 17.220.20; 25.040.40; 33.100.20

ISBN 978-2-8322-8980-8

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

CONTENTS

FOREWORD 4
1 Scope 6
2 Normative references 8
3 Terms and definitions 8
4 General 9
5 EMC test plan 9
5.1 General 9
5.2 Configuration of EUT during testing 9
5.3 Operation conditions of EUT during testing 10
5.4 Specification of FUNCTIONAL PERFORMANCE 10
5.5 Test description 10
6 Immunity requirements 10
6.1 Conditions during the tests 10
6.2 Immunity test requirements 11
6.3 Random aspects 11
6.4 Performance criteria 11
7 Emission requirements 12
7.1 Conditions during measurements 12
7.2 Emission limits 12
8 Test results and test report 12
9 Instructions for use 12
Annex A (normative) Immunity test requirements for PORTABLE TEST AND MEASUREMENT EQUIPMENT powered by battery or from the circuit being measured 13
Annex AA (normative) Additional requirements and exceptions for specific types of transducers – Transducers for measurement of tension and compressive forces (force transducers) 14
AA.1 General considerations 14
AA.2 Test configuration 14
AA.3 Operation conditions 15
Annex BB (normative) Additional requirements and exceptions for specific types of transducers – Transducers for measurement of pressure (pressure transducers) 17
BB.1 General considerations 17
BB.2 Test configuration 17
BB.3 Operation conditions 18
Annex CC (normative) Additional requirements and exceptions for specific types of transducers – Transducers for measurement of temperature (temperature transducer) 19
CC.1 General considerations 19
CC.2 Test configuration 19
CC.3 Operation conditions 20
Bibliography 22

Figure 101 – Example of a TRANSDUCER WITH INTEGRATED SIGNAL CONDITIONING 7
Figure 102 – Example of a TRANSDUCER WITH REMOTE SIGNAL CONDITIONING 8
Figure AA.1 – Example of the configuration of a force transducer with remote signal conditioning 15

This document is a preview generated by EVS

Figure BB.1 – Example of the configuration of a pressure transducer 18
Figure CC.1 – Example of the configuration of a temperature transducer with sensor and signal conditioning in the same housing 20
Figure CC.2 – Example of the configuration of a temperature transducer with remote signal conditioning 20

Table 101 – Performance criteria for the different functions 12
Table AA.1 – Circuitry actions for generating an output signal for simulation of a mechanical load on the transducer 16

This document is a preview generated by EVS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL AND LABORATORY USE – EMC REQUIREMENTS –

Part 2-3: Particular requirements – Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

This document is a preview generated by EVS

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.
2) The formal decisions or agreements of 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 IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This International Standard IEC 61326-2-3 has been prepared by subcommittee 65A: System aspects, of IEC technical committee 65: Industrial-process measurement, control and automation.

This third edition cancels and replaces the second edition published in 2012. This edition constitutes a technical revision.

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

– update of the document with respect to IEC 61326-1:2020.

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

FDIS	Report on voting
65A/980/FDIS	65A/991/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

In this document the following print types are used:

– Terms used throughout this document which have been defined in Clause 3 of this document and of IEC 61326-1:2020: SMALL CAPITALS.

This part of the IEC 61326 series is to be used in conjunction with IEC 61326-1:2020 and follows the same numbering of clauses, subclauses, tables and figures.

When a particular subclause of IEC 61326-1 is not mentioned in this part, that subclause applies as far as is reasonable. When this standard states “addition”, “modification” or “replacement”, the relevant text in IEC 61326-1 is to be adapted accordingly.

NOTE The following numbering system is used:

– subclauses, tables and figures that are numbered starting from 101 are additional to those in IEC 61326-1;

– unless notes are in a new subclause or involve notes in IEC 61326-1, they are numbered starting from 101 including those in a replaced clause or subclause;

– additional annexes are lettered AA, BB, etc.

A list of all parts of the IEC 61326 series, under the general title *Electrical equipment for measurement, control and laboratory use – EMC requirements,* 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.

This document is a preview generated by EVS

ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL AND LABORATORY USE – EMC REQUIREMENTS –

Part 2-3: Particular requirements – Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

This document is a preview generated by EVS

1 Scope

In addition to the requirements of IEC 61326-1, this part of IEC 61326 specifies more detailed test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning.

This document applies only to transducers characterized by their ability to transform, with the aid of an auxiliary energy source, a non-electric quantity to a process-relevant electrical signal, and to output the signal at one or more PORTS. This document includes transducers for electro-chemical and biological measured quantities.

The transducers covered by this document can be powered by AC or DC voltage and/or by battery or with internal power supply.

Transducers referred to by this document comprise at least the following items (see Figure 101 and Figure 102):

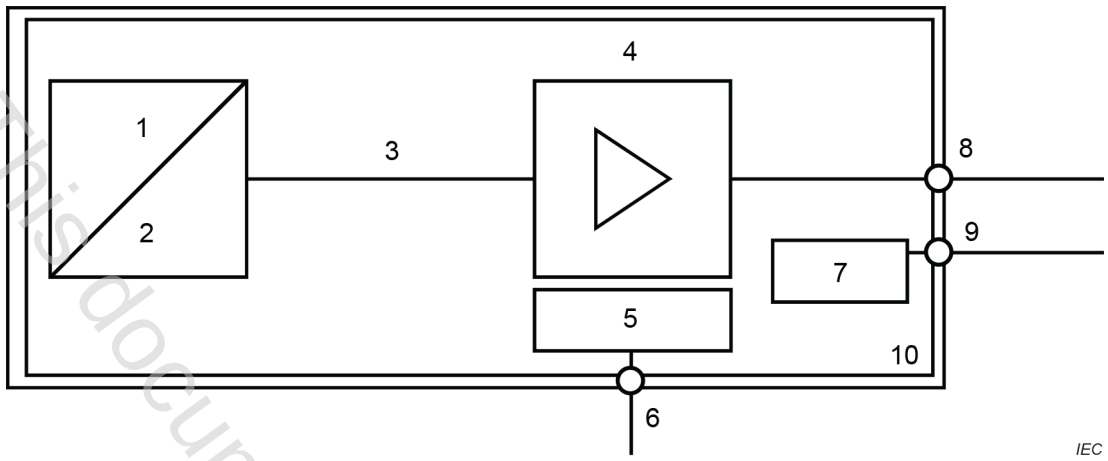
– one or more elements for transforming a non-electrical input quantity to an electrical quantity;
– a TRANSMISSION LINK for transferral of the electrical quantity to a component for signal conditioning;
– a unit for signal conditioning that converts the electrical quantity to a process-relevant electrical signal;
– an enclosure for enclosing the above-stated components fully or in parts.

Transducers referred to by this document can also have the following items (see Figure 101 and Figure 102):

– a communication and control unit;
– a display unit;
– control elements such as keys, buttons, switches, etc.;
– transducer output signals (for example, switch outputs, alarm outputs) which are clearly assigned to the input signal(s);
– transducers with signal conditioning which may be integrated or remote.

The manufacturer specifies the environment for which the product is intended to be used and utilizes the corresponding test levels of IEC 61326-1.

Additional requirements and exceptions for specific types of transducers are given in Annex AA, Annex BB and Annex CC to this document.



Key

1 non-electrical quantity
2 electrical quantity
3 TRANSMISSION LINK
4 signal conditioning
5 communication and control unit
6 input/output PORTS
7 power supply
8 signal PORT
9 AC/DC POWER PORT
10 enclosure

Figure 101 – Example of a TRANSDUCER WITH INTEGRATED SIGNAL CONDITIONING

This document is a preview generated by EVS