SLOVENSKI STANDARD
oSIST prEN IEC 61326-2-3:2019

01-oktober-2019

Električna oprema za merjenje, kontrolo in laboratorijsko uporabo - Zahteve za elektromagnetno združljivost (EMC) - 2-3. del: Posebne zahteve - Preskusna konfiguracija, obratovalni pogoji in merila za delovanje pretvornikov z vgrajenim ali daljinskim kondicioniranjem signalov

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

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

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

Ta slovenski standard je istoveten z: **prEN IEC 61326-2-3:2019**

ICS:

19.080	Električno in elektronsko preskušanje	Electrical and electronic testing
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

oSIST prEN IEC 61326-2-3:2019 **en,fr,de**

65A/925/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:	
IEC 61326-2-3 ED3	
DATE OF CIRCULATION: **2019-08-23**	CLOSING DATE FOR VOTING: **2019-11-15**
SUPERSEDES DOCUMENTS: **65A/906/CD, 65A/916A/CC**	

IEC SC 65A : SYSTEM ASPECTS	
SECRETARIAT: United Kingdom	SECRETARY: Mr Petar Luzajic
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 77, SC 77A	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☒ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY

☒ SUBMITTED FOR CENELEC PARALLEL VOTING ☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

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

PROPOSED STABILITY DATE: 2023

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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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

FOREWORD

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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 change with respect to the previous edition:

– update of the document with respect to IEC 61326-1:20xx.

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

FDIS	Report on voting
65A/xxx/FDIS	65A/xxx/RVD

105
106 Full information on the voting for the approval of this standard can be found in the report on
107 voting indicated in the above table.

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

109 This part of the IEC 61326 series is to be used in conjunction with IEC 61326-1:20xx and
110 follows the same numbering of clauses, subclauses, tables and figures.

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

114 NOTE The following numbering system is used:

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

117 – unless notes are in a new subclause or involve notes in IEC 61326-1, they are numbered starting from
118 101 including those in a replaced clause or subclause;

119 – additional annexes are lettered AA, BB, etc.

120 A list of all parts of the IEC 61326 series, under the general title *Electrical equipment for*
121 *measurement, control and laboratory use, control and laboratory use – EMC requirements,*
122 can be found on the IEC website.

123 The committee has decided that the contents of this publication will remain unchanged until
124 the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data
125 related to the specific publication. At this date, the publication will be

126 • reconfirmed,
127 • withdrawn,
128 • replaced by a revised edition, or
129 • amended.

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131

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

1 Scope

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

This standard 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 standard includes transducers for electrochemical and biological measured quantities.

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

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

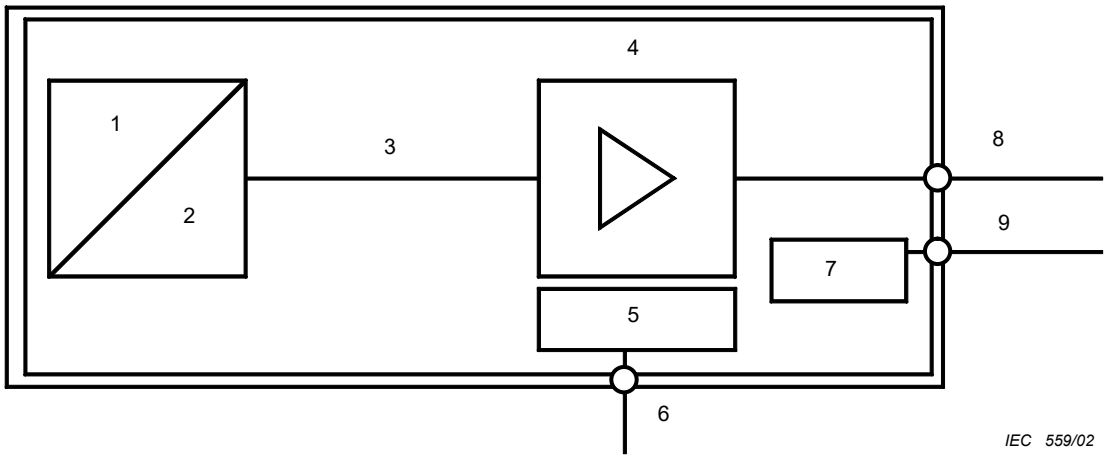
– one or more elements for transforming a non-electrical input quantity to an electrical quantity;
– a TRANSMISSION LINK for transferral of the electrical quantity to a component for signal conditioning;
– a unit for signal conditioning that converts the electrical quantity to a process-relevant electrical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

Transducers referred to by this standard may also have the following items (see Figures 101 and 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.

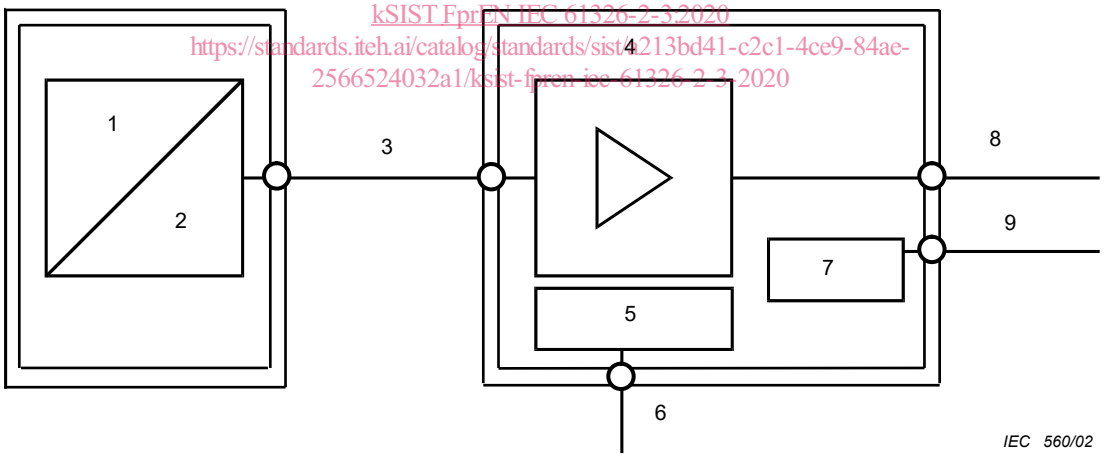
Additional requirements and exceptions for specific types of transducers are given in the annexes to this standard.



174

175 **Key**
176 1 Non-electrical quantity
177 2 Electrical quantity
178 3 TRANSMISSION LINK
179 4 Signal conditioning
180 5 Communication and control unit
181 6 Input/output ports
182 7 Power supply
183 8 Signal port
184 9 AC/DC POWER PORT

185 **Figure 101 – Example of a TRANSDUCER WITH INTEGRATED SIGNAL CONDITIONING**



186

187 **Key**
188 1 Non-electrical quantity
189 2 Electrical quantity
190 3 TRANSMISSION LINK
191 4 Signal conditioning
192 5 Communication and control unit
193 6 Input/output ports
194 7 Power supply
195 8 Signal port
196 9 AC/DC POWER PORT

197 **Figure 102 – Example of a TRANSDUCER WITH REMOTE SIGNAL CONDITIONING**

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Clause 2 of IEC 61326-1:20xx applies, except as follows:

Addition:

IEC 61326-1:20xx, *Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions of IEC 61326-1 apply, except as follows.

Addition:

3.101
transducer with integrated signal conditioning
transducer in which all components for signal conditioning are integrated in the enclosure (see Figure 101)

3.102
transducer with remote signal conditioning
transducer whose components for signal conditioning are installed in separate enclosures (see Figure 102)

3.104
transmission link
connection between the individual components of a transducer with remote signal conditioning

3.105
(nominal) range
range of indications obtainable with a particular setting of the controls of a measuring instrument

Note 1 to entry: The NOMINAL RANGE is normally stated in terms of its lower and upper limits. Where the lower limit is zero, the nominal range is commonly stated solely in terms of its upper limit.

[SOURCE: IEC 60050-300:2001, 311-03-14]

3.106
measuring range (of a transducer)
range defined by two values of the measured quantity within which the relationship between the output and input signals complies with the accuracy requirements

[SOURCE: IEC 60050-300:2001, 314-04-04, modified]

Note 1 to entry: For a 4 mA to 20 mA system, the output current 4 mA represents the lower limit for the measured quantity and 20 mA represent the upper limit.

3.107
span
algebraic difference between the values of the upper and lower limits of the measuring range

239 [SOURCE: IEC 60050-300:2001, 311-03-13]

240 **3.108**
241 **intrinsic uncertainty**
242 uncertainty of a measuring instrument when used under reference conditions

243 Note 1 to entry: This term is used in the “uncertainty” approach

244 [SOURCE: IEC 60050-300:2001, 311-03-09]

245 # 4 General

246 Clause 4 of IEC 61326-1:20xx applies.

247 # 5 EMC test plan

248 ## 5.1 General

249 Subclause 5.1 of IEC 61326-1:20xx applies.

250 ## 5.2 Configuration of EUT during testing

251 Subclause 5.2 of IEC 61326-1:20xx applies, except as follows.

252 ### 5.2.1 General

253 Subclause 5.2.1 of IEC 61326-1:20xx applies, except as follows:

254 *Addition:*

255 A system for monitoring the behaviour of the EUT and for registering the output values shall
256 be designed in such a way that the electromagnetic compatibility characteristics of the EUT
257 are not impaired. The monitoring system shall also be designed such that its response is not
258 affected by the immunity tests. The input impedance of the monitoring system shall
259 correspond to the terminating impedance of the transducer, specified by the manufacturer.
260 The distance between the monitoring system and the EUT should be at least 1,5 m.

261 The measurement uncertainty and the bandwidth of the monitoring system shall be adapted to
262 the characteristics of the transducer.

263 TRANSMISSION LINKS are considered as separate input and output lines.

264 The tests shall be conducted in compliance with the environmental conditions for the
265 transducer specified by the manufacturer and using the specified supply voltage.

266 In the case of battery-operated transducers that can also be used when connected with a
267 power supply, both operating modes (stand-alone and externally supplied) shall be tested.

268 In cases in which the manufacturer's installation instructions stipulate the use of external
269 protective equipment or particular protective measures that are explicitly stated in the
270 operating manual, the test requirements given in this part of the standard shall be applied for
271 use together with the external protective equipment or measures.

272 ## 5.3 Operation conditions of EUT during testing

273 Subclause 5.3 of IEC 61326-1:20xx applies.