

**SLOVENSKI  
STANDARD**

**SIST EN 61326:1998/A2:2002**

prva izdaja  
junij 2002

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Electrical equipment for measurement, control and laboratory use - EMC  
requirements - Amendment A2 (IEC 61326:1997/A2:2000)

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ICS 33.100.01

Referenčna številka  
SIST EN 61326:1998/A2:2002(en)

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EUROPEAN STANDARD

**EN 61326/A2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2001

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English version

**Electrical equipment for measurement, control and laboratory use -  
EMC requirements**  
(IEC 61326:1997/A2:2000)

Matériels électriques de mesure,  
de commande et de laboratoire -  
Prescriptions relatives à la CEM  
(CEI 61326:1997/A2:2000)

Elektrische Betriebsmittel für  
Leittechnik und Laboreinsatz -  
EMV-Anforderungen  
(IEC 61326:1997/A2:2000)

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This amendment A2 modifies the European Standard EN 61326:1997; it was approved by CENELEC on 2001-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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**

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## Foreword

The text of document 65A/307/FDIS, future amendment 2 to IEC 61326:1997, prepared by SC 65A, System aspects, of IEC TC 65, Industrial-process measurement and control, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A2 to EN 61326:1997 on 2001-03-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2002-04-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2004-04-01

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## Endorsement notice

The text of amendment 2:2000 to the International Standard IEC 61326:1997 was approved by CENELEC as an amendment to the European Standard without any modification.

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC  
61326-1

1997

AMENDEMENT 2  
AMENDMENT 2  
2000-08

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Amendement 2

**Matériels électriques de mesure,  
de commande et de laboratoire –  
Prescriptions relatives à la CEM –**

**Partie 1:  
Prescriptions générales**

Amendment 2

**Electrical equipment for measurement,  
control and laboratory use –  
EMC requirements –**

**Part 1:  
General requirements**

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For price, see current catalogue*

## FOREWORD

This amendment has been prepared by subcommittee 65A: System aspects, of IEC technical committee 65: Industrial-process measurement and control.

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

FDIS	Report on voting
65A/307/FDIS	65A/312/RVD

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

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2001. At this date, the publication will be

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

*Add, after annex C, the following new normative annex D:*

### **Annex D** (normative)

#### **Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications**

##### **D.1 General**

## **iTeh STANDARD PREVIEW**

In addition to the requirements of this standard, this annex specifies more detailed test configurations, operational conditions and performance criteria for equipment with test and measurement circuits (both internal and/or external to the equipment) that are not EMC protected for operational and/or functional reasons, as specified by the manufacturer.

Examples of such equipment include, but are not limited to, oscilloscopes, logic analyzers, spectrum analyzers, network analyzers, digital multimeters (DMM) and board test systems.

The manufacturer specifies the environment for which the product is intended to be used and utilizes the corresponding test level specifications in this standard.

## D.2 Test configurations

### D.2.1 I/O ports for test and measurement purposes (T&M ports)

Test and measurement (T&M) input ports shall be capped and shorted unless this leads to an operating condition unsuitable for measuring the emission and immunity performance of the product. In this case, an appropriate input signal shall be applied.

Test and measurement (T&M) output ports not needed to evaluate the essential functions of the EUT shall be capped and/or terminated.

NOTE 1 Probes and/or test leads to be used with the test and measurement ports do not need to be connected. Such test leads can vary substantially from one application to another and are often connected to equipment that has the covers removed and may be in various stages of disassembly to provide access to test points inside. Connected test leads may increase emissions and/or reduce immunity in certain applications.

NOTE 2 Capped means locally covered in a screening manner.

### D.2.2 Auxiliary equipment

Auxiliary equipment necessary for the normal operation of the equipment under test (EUT) shall be included as part of the equipment to be tested.

## D.3 Operational conditions

When both battery and a.c. options are available, both modes of operation shall comply.

### D.3.1 Oscilloscopes

The oscilloscope ports shall be set for maximum sweep speed, maximum sensitivity and continuous acquisition mode unless other modes are known to provide worst-case emission or immunity results within normal applications.

### D.3.2 Logic analyzers

The logic analyzer shall be set for data analysis modes during emissions testing and continuous data acquisition mode during immunity testing unless other modes are known to provide worst-case emission or immunity results within normal applications.

### D.3.3 Digital multimeters (DMM)

Typical set-ups include: peak detect, maximum sensitivity (usually auto-range, if available, will suffice) and continuous acquisition mode.

### D.3.4 Other equipment

For equipment not mentioned in D.3.1 to D.3.3, the following philosophy shall apply.

A selection of representative operation modes shall be made, taking into account that not all functions, but only the most typical functions of the equipment can be tested. The estimated worst-case operating modes for normal application shall be selected.

## **D.4 Immunity test conditions – Performance criteria**

### **D.4.1 Tests with transient electromagnetic phenomenon**

During testing, the EUT may have temporary degradation or loss of function or performance which is self-recovering. Self-recovery times greater than 10 s shall be specified by the manufacturer. Trigger functions shall not be evaluated. No change in actual operating state or loss of stored data is allowed.

Electrostatic discharges shall be applied to the housing shield, but not to the inner pins of shielded port or cable connectors. Examples include: BNC, D-subminiature, IEEE 488 (GPIB), RS232 and IEEE 1284-B (Parallel printer port).

### **D.4.2 Tests with continuously present electromagnetic phenomenon**

No visual degradation of parameters of the EUT is allowed during application of the test except as specified by the manufacturer.

No test for power frequency magnetic field is required.

## **D.5 Typical product specific immunity test parameters**

### **D.5.1 Oscilloscopes**

Typical parameters observed during immunity testing include trace width deviation, trace offset and display noise.

### **D.5.2 Logic analyzers**

Typical parameters observed during immunity testing include logic analyzer functional operations that may cause system lock-up or change of function or mode.

### **D.5.3 Digital multimeters (DMM)**

Typical parameters observed during immunity testing include the displayed measurement value.

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