

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electrical equipment for measurement, control and laboratory use – EMC requirements –
Part 2-5: Particular requirements – Test configurations, operational conditions and performance criteria for field devices with field bus interfaces according to IEC 61784-1**

Matériel électrique de mesure, de commande et de laboratoire – Exigences relatives à la CEM –

Partie 2-5: Exigences particulières – Configurations d'essai, conditions de fonctionnement et critères d'aptitude à la fonction pour les équipements de terrain avec des interfaces utilisant des bus de terrain conformes à la CEI 61784-1



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INTERNATIONAL
ELECTROTECHNICAL
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COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

Q

ICS 17.220; 25.040.40; 33.100

ISBN 978-2-83220-396-5

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL EQUIPMENT FOR MEASUREMENT,
CONTROL AND LABORATORY USE –
EMC REQUIREMENTS –****Part 2-5: Particular requirements –
Test configurations, operational conditions and performance criteria
for field devices with field bus interfaces according to IEC 61784-1**

FOREWORD

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International Standard IEC 61326-2-5 has been prepared by subcommittee 65A: System aspects, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

- Update with respect to IEC 61326-1:2012.

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

FDIS	Report on voting
65A/643/FDIS	65A/654/RVD

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

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

This part of IEC 61326 series is to be used in conjunction with IEC 61326-1:2012 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 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 publication will remain unchanged until the stability date indicated on the IEC web site under “<http://webstore.iec.ch>” in the data related to the specific publication. At this date, the publication will be

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

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

Part 2-5: Particular requirements – Test configurations, operational conditions and performance criteria for field devices with field bus interfaces according to IEC 61784-1

1 Scope

In addition to the requirements of International Standard IEC 61326-1, this part of IEC 61326 treats the particular features for EMC testing of field devices with field bus interfaces. This part of IEC 61326 covers only the field bus interface of the equipment.

NOTE The other functions of the equipment remain covered by other parts of IEC 61326 series.

This part refers only to field devices intended for use in process control and process measuring.

In this standard field devices with interfaces according to IEC 61784-1, CP 3/2 and CP 1/1 as defined in IEC 61784 are covered. Other field busses may be included in future editions of this standard.

The IEC 61784-1 specifies a set of protocol specific communication profiles based on IEC 61158.

The manufacturer specifies the environment for which the product is intended to be used and/or selects the appropriate test level specifications of IEC 61326-1.

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 applies except as follows:

Addition:

IEC 61158-2:2010, *Industrial communication networks – Fieldbus specifications – Part 2: Physical layer specification and service definition*

IEC 61158-3-3:2007, *Industrial communication networks – Fieldbus specifications – Part 3-3: Data-link layer service definition – Type 3 elements*

IEC 61158-5-5:2007, *Industrial communication networks – Fieldbus specifications – Part 5-5: Application layer service definition – Type 5 elements*

IEC 61158-6-10:2010, *Industrial communication networks – Fieldbus specifications – Part 6-10: Application layer protocol specification – Type 10 elements*

IEC 61784-1:2010, *Industrial communication networks – Profiles – Part 1: Fieldbus profiles*

3 Terms and definitions

Clause 3 of IEC 61326-1 applies.

4 General

Clause 4 of IEC 61326-1 applies.

5 EMC test plan

5.1 General

Subclause 5.1 of IEC 61326-1 applies.

5.2 Configuration of EUT during testing

Subclause 5.2 of IEC 61326-1 applies, except as follows:

Addition:

Additional requirements: see Annexes AA and BB.

5.3 Operation conditions of EUT during testing

Subclause 5.3 of IEC 61326-1 applies, except as follows:

Addition:

Additional requirements: see Annexes AA and BB.

5.4 Specification of functional performance

Subclause 5.4 of IEC 61326-1 applies.

5.5 Test description

Subclause 5.5 of IEC 61326-1 applies.

6 Immunity requirements

6.1 Conditions during the tests

Subclause 6.1 of IEC 61326-1 applies.

6.2 Immunity test requirements

Subclause 6.2 of IEC 61326-1 applies.

6.3 Random aspects

Subclause 6.3 of IEC 61326-1 applies.

6.4 Performance criteria

Subclause 6.4 of IEC 61326-1 applies, except as follows:

Addition:

Additional requirements: see Annexes AA and BB.

7 Emission requirements

Clause 7 of IEC 61326-1 applies.

8 Test results and test report

Clause 8 of IEC 61326-1 applies, except as follows:

Addition:

The type of shield connection at the EUT shall be stated in the test report.

9 Instructions for use

Clause 9 of IEC 61326-1 applies.