



SLOVENSKI STANDARD

SIST EN 61143-2:1999

01-julij-1999

Električni merilni instrumenti – Zapisovalniki X-t – 2. del: Priporočene dodatne prekusne metode (IEC 61143-2:1992)

Electrical measuring instruments - X-t recorders -- Part 2: Recommended additional test methods

Elektrische Meßgeräte - X-t-Schreiber -- Teil 2: Empfohlene zusätzliche Prüfverfahren

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Appareils électriques de mesure - Enregistreurs X-t -- Partie 2: Méthodes d'essais complémentaires recommandées

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Ta slovenski standard je istoveten z: EN 61143-2:1994

ICS:

17.220.20	Merjenje električnih in magnetnih veličin	Measurement of electrical and magnetic quantities
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en

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ICS 19.080

Supersedes HD 301 S1:1977

Descriptors: Measuring instrument, electrical measurement, recorder,
X-t recorder, specific tests to X-t recorders

ENGLISH VERSION

Electrical measuring instruments - X-t recorders
Part 2: Recommended additional test methods
(IEC 1143-2:1992)

Appareils électriques de mesure
Enregistreurs X-t
Partie 2: Méthodes d'essais
complémentaires recommandées
(CEI 1143-2:1992)

Elektrische Meßgeräte
X-t-Schreiber
Teil 2: Empfohlene zusätzliche
Prüfverfahren
(IEC 1143-2:1992)

This European Standard was approved by CENELEC on 1994-03-08.
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 Central Secretariat 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 Central Secretariat
has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium,
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

FOREWORD

The CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 1143-2:1992 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as EN 61143-2 on 8 March 1994.

This European Standard replaces HD 301 S1:1977.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1995-03-15
- latest date of withdrawal of conflicting national standards (dow) 1995-03-15

ENDORSEMENT NOTICE

The text of the International Standard IEC 1143-2:1993 was approved by CENELEC as a European Standard without any modification.

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NORME
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STANDARD

CEI
IEC

61143-2

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Appareils électriques de mesure –
Enregistreurs X-t

Partie 2:
Méthodes d'essais complémentaires
recommandées

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Electrical measuring instruments –
X-t recorders

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Part 2:
Recommended additional test methods

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**ELECTRICAL MEASURING INSTRUMENTS –
X-t RECORDERS**
Part 2: Recommended additional test methods

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. 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. The 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 the IEC on technical matters, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 3) They have the form of recommendations for international use published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

This part of International Standard IEC 1143 has been prepared by IEC technical committee 85: Measuring equipment for basic electrical quantities.

The IEC 1143-1 and IEC 1143-2 cancel and replace the IEC 484 (1974).

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

DIS	Report on Voting
85(CO)18	85(CO)21

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

INTRODUCTION

This part of IEC 1143 shall be read in conjunction with part 1 and IEC 51-9: 1988, *Direct acting indicating analogue electrical measuring instruments and their accessories – Part 9: Recommended test methods*.

It gives details of tests which are specific to X-t recorders. The testing conditions and the more conventional tests, which shall be followed, are those given in the following list of subclauses from IEC 51-9:

1.2	3.5.2
1.2.8	3.6
1.2.9	3.7
1.2.11	3.8
1.2.12	3.17
1.2.13	3.18
3.2	4.1
3.4	4.6
3.5	4.10
3.5.2	4.19
3.6	

Other clauses from IEC 51-9 may also be applied, if relevant.

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For easier reference clause numbering follows that of IEC 51-9.

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For X-t recorders, tapping is not allowed.
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In case of doubt, the text of this part 2 as well as that of part 1 shall prevail.

ELECTRICAL MEASURING INSTRUMENTS – X-t RECORDERS

Part 2: Recommended additional test methods

1.1 Scope

See part 1.

2.11 Intrinsic error test

The recorder shall be under reference conditions with the auxiliary circuits energized.

2.11.1 Measuring circuit

Before determining the intrinsic error, the record shall be at the chart scale line corresponding to zero and the chart driving mechanism shall be on.

The errors shall be determined for both increasing and decreasing values of the measurand as follows:

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2.11.1.1 Continuous line recorders and single channel dotted line recorders

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Procedure:

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An input quantity shall be applied and increased sufficiently slowly in order to avoid overshoot, to a value corresponding to the input quantity, B_a . The recorded value, B_x , shall be read as soon as the steady state value of the input has been reached and the chart has advanced by at least 2 mm.

This test shall be performed at five approximately equal steps within the span, including the lower and upper limits of the measuring range.

For single channel dotted line recorders, the reading used shall be that of the dot next following the one indicating that the steady state has been reached. During this test the chart shall be driven at a sufficiently high speed for the individual dots to be distinguishable.

Computation:

The intrinsic error, expressed as a percentage, shall be computed for each selected step as follows:

$$\frac{B_x - B_a}{A_s} \times 100$$

where A_s is the span.