SLOVENSKI STANDARD
SIST EN 60051-7:1995

01-avgust-1995

Neposredni kazalni analogni električni merilni instrumenti in njihov pribor – 7. del: Posebne zahteve za večfunkcijske instrumente (IEC 60051-7:1984)

Direct acting indicating analogue electrical measuring instruments and their accessories -- Part 7: Special requirements for multi-function instruments

Direkt wirkende anzeigende elektrische Meßgeräte und ihr Zubehör - Meßgeräte mit Skalenanzeige -- Teil 7: Spezielle Anforderungen für Vielfach-Meßgeräte

Appareils mesureurs électriques indicateurs analogiques à action directe et leurs accessoires -- Partie 7: Prescriptions particulières pour les appareils à fonctions multiples

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ENGLISH VERSION

DIRECT ACTING INDICATING ANALOGUE ELECTRICAL MEASURING INSTRUMENTS AND THEIR ACCESSORIES
PART 7: SPECIAL REQUIREMENTS FOR MULTI-FUNCTION INSTRUMENTS
(IEC 51-7 (1984) edition 4)

Appareils mesureurs électriques indicateurs analogiques à action directe et leurs accessoires
Septième partie: Prescriptions particulières pour les appareils à fonctions multiples
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(IEC 51-7 (1984) Ausgabe 4)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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BRIEF HISTORY

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Appareils mesureurs électriques indicateurs analogiques à action directe et leurs accessoires

Septième partie:
Prescriptions particulières pour les appareils à fonctions multiples

Direct acting indicating analogue electrical measuring instruments and their accessories

Part 7:
Special requirements for multi-function instruments

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIRECT ACTING INDICATING ANALOGUE ELECTRICAL MEASURING INSTRUMENTS AND THEIR ACCESSORIES

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FOREWORD

1) 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.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This standard has been prepared by IEC Technical Committee No. 85: Measuring Equipment for Basic Electrical Quantities (former Sub-Committee 13B: Electrical Measuring Instruments).

This fourth edition replaces the third edition of IEC Publication 51.

This standard constitutes Part 7.

The general layout for the revised Publication 51 is as follows:

Part 1: Definitions and General Requirements Common to all Parts.

Part 2: Special Requirements for Ammeters and Voltmeters.

Part 3: Special Requirements for Wattmeters and Varmeters.

Part 4: Special Requirements for Frequency Meters.

Part 5: Special Requirements for Phase Meters, Power Factor Meters and Synchroscopes.

Part 6: Special Requirements for Ohmmeters (Impedance Meters) and Conductance Meters.

Part 7: Special Requirements for Multi-function Instruments.

Part 8: Special Requirements for Accessories.

Part 9: Recommended Test Methods.

Parts 2 to 9 are not complete in themselves and shall be read in conjunction with Part 1.

All of these parts are arranged in the same format and a standard relationship between subject and clause number is maintained throughout. In addition, tables, figures and appendices add a suffix to the part number in order to differentiate the parts. This re-arrangement will assist the reader of IEC Publication 51 to distinguish information relating to the different types of instruments.

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

Six Months' Rule	Report on Voting
13B(CO)90	13B(CO)99

Further information can be found in the Report on Voting indicated in the table above.

DIRECT ACTING INDICATING ANALOGUE ELECTRICAL MEASURING INSTRUMENTS AND THEIR ACCESSORIES

Part 7: Special requirements for multi-function instruments

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1. Scope

1.1 Part 7 of the standard applies to multi-function analogue instruments as defined in Sub-clause 2.1.7 of Part 1.

1.2 This part also applies to non-interchangeable accessories (as defined in Sub-clause 2.1.15.3 of Part 1) used with multi-function analogue instruments.

1.3 to 1.8 See Part 1.

2. Definitions

See Part 1.

3. Description, classification and compliance

3.1 *Description*

Multi-function instruments shall be described in accordance with the quantities which they measure, for example d.c./a.c. ammeter—d.c./a.c. voltmeter—ohmmeter.

3.2 *Classification*

3.2.1 Each function of a multi-function instrument shall be classified in one of the accuracy classes denoted by the class indices as given in Sub-clause 3.2 of the part relevant to that function.

3.2.2 Each function may have a different class index.

D.C. and a.c. are considered to be different measuring functions as are the measurement of current and voltage.

3.2.3 Some ranges of a function may have a different class index from the other ranges.

3.3 *Compliance with the requirements of this standard*

See Part 1.

3.3.1 and 3.3.2 See Part 1.

3.3.3 The special requirements of the relevant Parts 2 to 6 apply to the various functions of a multi-function instrument.

4. Reference conditions and intrinsic errors

4.1 *Reference conditions*

See Part 1 for general requirements and Sub-clause 4.1 in the relevant part for each function for special requirements, if any.

4.2 *Limits of intrinsic error; fiducial value*

See Part 1 for general requirements and Sub-clause 4.2 in the relevant part for each function for special requirements, if any.

4.2.1 *Correspondence between intrinsic error and accuracy class*

See Part 1 for general requirements and Sub-clause 4.2.1 in the relevant part for each function for special requirements, if any.

4.2.2 *Fiducial value*

The fiducial value for each function of a multi-function instrument shall be as given in Sub-clause 4.2.2 of the part relevant to that function.

5. Nominal range of use and variations

5.1 *Nominal range of use*

See Part 1 and Tables II of the parts relevant to each function.

5.2 *Limits of variations*

See Part 1 for general requirements and Sub-clause 5.2 of the relevant parts for each function for special requirements, if any.

5.3 *Conditions for the determination of variations*

See Part 1 for general requirements and Sub-clause 5.3 of the relevant parts for each function for special requirements, if any.

6. Further electrical and mechanical requirements

6.1 *Voltage tests; insulation tests and other safety requirements*

See Part 1.

6.2 *Damping*

See Part 1 for general requirements and Sub-clause 6.2 of the relevant parts for each function for special requirements, if any.

However, if a multi-function instrument cannot meet all of the requirements of Sub-clause 6.2 of Part 1 on one or more ranges, the manufacturer shall mark Symbol F-33 (Table III-1) on the dial or on a part which is visible while the instrument is in use and shall give details in a separate document of the requirements which cannot be met.