

SLOVENSKI STANDARD

SIST EN 60870-5-4:1997

01-avgust-1997

Telecontrol equipment and systems - Part 5: Transmission protocols - Section 4: Definition and coding of application information elements (IEC 870-5-4:1993)

Telecontrol equipment and systems -- Part 5: Transmission protocols - Section 4:
Definition and coding of application information elements

Fernwirkrichtungen und Fernwirkssysteme -- Teil 5: Übertragungsprotokolle -
Hauptabschnitt 4: Definition und Codierung von Informationselementen der
Anwendungsschicht

Matériels et systèmes de téléconduite -- Partie 5: Protocoles de transmission - Section 4:
Définition et codages des éléments d'information d'application

Ta slovenski standard je istoveten z: EN 60870-5-4:1993

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EUROPEAN STANDARD

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ENGLISH VERSION

Telecontrol equipment and systems
 Part 5: Transmission protocols
 Section 4: Definition and coding of application
 information elements
 (IEC 870-5-4:1993)

Matériels et systèmes de
 téléconduite
 Partie 5: Protocoles de
 transmission
 Section 4: Définition et
 codages des éléments
 d'information d'application
 (CEI 870-5-4:1993)

Fernwirkleinrichtungen
 und Fernwirksysteme
 Teil 5: Übertragungsprotokolle
 Hauptabschnitt 4: Definition
 und Codierung von
 Informationselementen der
 Anwendungsschicht
 (IEC 870-5-4:1993)

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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
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CENELEC members are the national electrotechnical committees of Austria, Belgium,
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 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 text of document 57(CO)62, as prepared by IEC Technical Committee N° 57: Telecontrol, teleprotection and associated telecommunications for electric power systems, was submitted to the IEC-CENELEC parallel vote in June 1992.

The reference document was approved by CENELEC as EN 60870-5-4 on 22 September 1993.

The following dates were fixed:

- latest date of publication of
an identical national standard (dop) 1994-08-01
- latest date of withdrawal of
conflicting national standards (dow) 1994-08-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.

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The text of the International Standard IEC 870-5-4:1993 was approved by CENELEC as a European Standard without any modification.

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ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

NOTE : When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication	Date	Title	EN/HD	Date
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50(371)	1984	International Electrotechnical Vocabulary (IEV) Chapter 371: Telecontrol	-	-
870-1-1	1988	Telecontrol equipment and systems Part 1: General considerations Section One: General principles	-	-
870-1-3	1990	Section Three: Glossary	-	-
870-5-3	1992	Part 5: Transmission protocols Section Three: General structure of application data	EN 60870-5-3	1992

Other publications

ISO/IEC 10000-1:1990 - Information technology - Framework and taxonomy of
international standardized profiles - Part 1: Framework

IEEE Standard 754:1985

CCITT Recommendation V.3: 1972 - International Alphabet No. 5

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Protocoles de transmission

Section 4: Définition et codages des éléments
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Telecontrol equipment and systems

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Part 5: /sist-en-60870-5-4-1997

Transmission protocols

Section 4: Definition and coding of
application information elements

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Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TELECONTROL EQUIPMENT AND SYSTEMS

Part 5: Transmission protocols

Section 4: Definition and coding
of application information elements

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.

International Standard IEC 870-5-4 has been prepared by IEC technical committee 57: Telecontrol, teleprotection and associated telecommunications for electric power systems.

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

DIS	Report on voting
57(CO)62	57(CO)67

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

TELECONTROL EQUIPMENT AND SYSTEMS

Part 5: Transmission protocols

Section 4: Definition and coding of application information elements

INTRODUCTION

This section of IEC 870-5 defines standard declaration rules for application data in telecontrol systems.

1 Scope and object

This section of IEC 870-5 applies to telecontrol equipment and systems with coded bit serial data transmission for monitoring and controlling geographically widespread processes.

This section of IEC 870-5 gives rules for defining information elements and presents a set of information elements, in particular of digital and analog process variables, that are frequently used in telecontrol applications.

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Clause 4 presents syntactic rules for defining application specific information elements. These rules comprise methods for semantic declarations, that is assignments of the functional interpretation of the defined information fields.

Clause 5 applies the declaration method to the basic data types defined in Clause 4 and introduces particular subtypes of data.

Clause 6 presents a set of information elements that are frequently used in telecontrol applications. These elements and the mentioned recommended applications for these elements are recommendations only. Definitive declarations of information elements have to be fixed in application profiles.

Single information elements, sequences or combinations of information elements may form an information object that is identified by an object address and by an object structures specification described in IEC 870-5-3.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 870-5. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 870-5 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 50(371): 1984, *International Electrotechnical Vocabulary (IEV) - Chapter 371: Telecontrol*.

IEC 870-1-1: 1988, *Telecontrol equipment and systems - Part 1: General considerations - Section One: General principles*.

IEC 870-1-3: 1990, *Telecontrol equipment and systems - Part 1: General considerations - Section Three: Glossary*.

IEC 870-5-3: 1992, *Telecontrol equipment and systems - Part 5: Transmission protocols - Section Three: General structure of application data*.

ISO/IEC 10000-1: 1990, *Information technology - Framework and taxonomy of international standardized profiles - Part 1: Framework*.

IEEE Standard 754, 1985.

CCITT Recommendation V.3: 1972, *International Alphabet No. 5*.

3 Definitions

For the purpose of this section of IEC 870-5, the following definitions apply:

3.1 data type: Defined method of data presentation.

For example: data type INTEGER for whole numbers or data type OCTETSTRING for an assembly of octets

3.2 data size: Field length of a specified data type in bits.

3.3 information element: A well defined variable quantity which is indivisible.

For example: measured value or double-point information.

3.4 profile: A set of one or more base standards, and, where applicable, the identification of chosen classes, subsets, options and parameters of those base standards, necessary for accomplishing a particular function (see 3.1.2 of ISO/IEC 10000-1).