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SIST EN 60870-5-6:2009

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60870-5-6

June 2009

ICS 33.200

English version

**Telecontrol equipment and systems -
Part 5-6: Guidelines for conformance testing
for the EN 60870-5 companion standards
(IEC 60870-5-6:2006)**

Matériels et systèmes de téléconduite -
Partie 5-6: Recommandations
pour les essais de conformité
des normes compagnons
de la EN 60870-5
(CEI 60870-5-6:2006)

Fernwirkleinrichtungen und -systeme -
Teil 5-6: Richtlinien
zur Konformitätsprüfung
für die anwendungsbezogenen
Normen der Reihe EN 60870-5
(IEC 60870-5-6:2006)

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This European Standard was approved by CENELEC on 2009-06-01. 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of the International Standard IEC 60870-5-6:2006, prepared by IEC TC 57, Power systems management and associated information exchange, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 60870-5-6 on 2009-06-01 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2010-06-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2012-06-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60870-5-6:2006 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

| | | |
|-----------------|------|---|
| IEC 60870-5-101 | NOTE | Harmonized as EN 60870-5-101:2003 (not modified). |
| IEC 60870-5-103 | NOTE | Harmonized as EN 60870-5-103:1998 (not modified). |
| IEC 60870-5-104 | NOTE | Harmonized as EN 60870-5-104:2006 (not modified). |
| ISO 9000 | NOTE | Harmonized as EN ISO 9000:2005 (not modified). |

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-----------------|--|--------------|--------------------|
| IEC 60870-5-1 | - ¹⁾ | Telecontrol equipment and systems - Part 5: Transmission protocols - Section 1: Transmission frame formats | EN 60870-5-1 | 1993 ²⁾ |
| IEC 60870-5-2 | - ¹⁾ | Telecontrol equipment and systems - Part 5: Transmission protocols - Section 2: Link transmission procedures | EN 60870-5-2 | 1993 ²⁾ |
| IEC 60870-5-3 | - ¹⁾ | Telecontrol equipment and systems - Part 5: Transmission protocols - Section 3: General structure of application data | EN 60870-5-3 | 1992 ²⁾ |
| IEC 60870-5-4 | - ¹⁾ | Telecontrol equipment and systems - Part 5: Transmission protocols - Section 4: Definition and coding of application information elements | EN 60870-5-4 | 1993 ²⁾ |
| IEC 60870-5-5 | - ¹⁾ | Telecontrol equipment and systems - Part 5: Transmission protocols - Section 5: Basic application functions | EN 60870-5-5 | 1995 ²⁾ |
| ISO/IEC 9646 | Series | Information technology - Open Systems Interconnection - Conformance testing methodology and framework | - | - |

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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INTERNATIONAL STANDARD

IEC
60870-5-6

First edition
2006-03

Telecontrol equipment and systems –

Part 5-6:

Guidelines for conformance testing for the IEC 60870-5 companion standards

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TELECONTROL EQUIPMENT AND SYSTEMS –

**Part 5-6: Guidelines for conformance testing for
the IEC 60870-5 companion standards**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60870-5-6 has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

The text of this part of IEC 60870-5 is based on the following documents:

| | |
|-------------|------------------|
| FDIS | Report on voting |
| 57/792/FDIS | 57/807/RVD |

Full information on the voting for the approval of this part of IEC 60870-5 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.

IEC 60870-5 consists of the following parts, under the general title *Telecontrol equipment and systems – Part 5: Transmission protocols*:

- Part 5-1: Transmission frame formats
- Part 5-2: Link transmission procedures
- Part 5-3: General structure of application data
- Part 5-4: Definition and coding of application information elements
- Part 5-5: Basic application functions
- Part 5-6: Guidelines for conformance testing for the IEC 60870-5 companion standards
- Part 5-101: Companion standard for basic telecontrol tasks
- Part 5-102: Companion standard for the transmission of integrated totals in electric power systems
- Part 5-103: Companion standard for the informative interface of protection equipment
- Part 5-104: Network access for IEC 60870-5-101 using standard transport profiles
- Part 5-601: Conformance test cases for the IEC 60870-5-101 companion standard

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

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A bilingual version of this publication may be issued at a later date.

INTRODUCTION

This part of IEC 60870-5 specifies methods and procedures for conformance testing of Telecontrol equipment or systems using IEC 60870-5 standard(s).

This part of IEC 60870-5 contains general subjects and guidelines for the test environment. Detailed test cases, mandatory and optional mandatory test cases for the companion standards will become available as technical specifications (IEC 60870-5-60x).

Tests according to EMC requirements or related to environmental and organisational conditions are beyond the scope of this part of IEC 60870-5. This part of IEC 60870-5 only focuses on the protocol implementation and the related system functionality necessary to validate the protocol implementation.

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