SLOVENSKI STANDARD

SIST EN 60870-2-2:1997

01-avgust-1997

Telecontrol equipment and systems - Part 2: Operating conditions - Section 2: Environmental conditions (climatic, mechanical and non-electrical influences) (IEC 870-2-2:1996)

Telecontrol equipment and systems -- Part 2: Operating conditions -- Section 2: Environmental conditions (climatic, mechanical and other non-electrical influences)

Fernwirkeinrichtungen und -systeme -- Teil 2: Betriebsbedingungen -- Hauptabschnitt 2: Umgebungsbedingungen (klimatische, mechanische und andere nichtelektrische Einflüsse)

Matériels et systèmes de téléconduite -- Partie 2: Conditions de fonctionnement -- Section 2: Conditions d'environnement (influences climatiques, mécaniques et autres influences non électriques)

Ta slovenski standard je istoveten z: **EN 60870-2-2:1996**

ICS:

33.200	Daljinsko krmiljenje, daljinske meritve (telemetrija)	Telecontrol. Telemetering

SIST EN 60870-2-2:1997 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60870-2-2

October 1996

ICS 33.200

Partly supersedes HD 546.2.1 S1:1991

Descriptors: Telecontrol equipment and systems, operating conditions, environmental conditions, environmental parameters, tests

English version

Telecontrol equipment and systems
Part 2: Operating conditions
Section 2: Environmental conditions
(climatic, mechanical and other non-electrical influences)
(IEC 870-2-2:1996)

Matériels et systèmes de téléconduite
Partie 2: Conditions de fonctionnement
Section 2: Conditions d'environnement
(influences climatiques, mécaniques et autres influences non électriques)
(CEI 870-2-2:1996)

Fernwirkeinrichtungen und -systeme
Teil 2: Betriebsbedingungen
Hauptabschnitt 2:
Umgebungsbedingungen (klimatische, mechanische und andere nichtelektrische Einflüsse)
(IEC 870-2-2:1996)

This European Standard was approved by CENELEC on 1996-10-01. 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, 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 text of document 57/264/FDIS, future edition 1 of IEC 870-2-2, prepared by IEC TC 57, Power system control and associated communications, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60870-2-2 on 1996-10-01.

This European Standard, together with EN 60870-2-1:1996, supersedes HD 546.2.1 S1:1991.

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) 1997-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1997-07-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A, B and ZA are normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 870-2-2:1996 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding 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 (including amendments).

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

Publication	Year	Title	EN/HD	Year
IEC 68	series	Environmental testing	HD 323 EN 60068	series series
IEC 654-1	1993	Industrial-process measurement and control equipment - Operating conditions Part 1: Climatic conditions	EN 60654-1	1993
IEC 654-4	1987	Part 4: Corrosive and erosive influences	-	-
IEC 721-2-1	1982	Classification of environmental conditions Part 2: Environmental conditions appearing in nature - Temperature and humidity	HD 478.2.1 S1[1]	1989
IEC 721-3-1	1987	Part 3: Classification of groups of environmental parameters and their severities Section 1: Storage	EN 60721-3-1[2]	1993
IEC 721-3-2	1985	Part 3: Classification of groups of environmental parameters and their severities - Transportation	EN 60721-3-2[3]	1993
IEC 721-3-3	1994	Section 3: Stationary use at weatherprotected locations	EN 60721-3-3	1995
IEC 721-3-4	1995	Section 4: Stationary use at non-weatherprotected locations	EN 60721-3-4	1995
IEC Guide 106	1989	Guide for specifying environmental conditions for equipment performance rating	-	-

1) HD 478.2.1 S1 includes A1:1987 to IEC 721-2-1.
2) EN 60721-3-1 includes A1:1991 to IEC 721-3-1.
3) EN 60721-3-2 includes A1:1991 to IEC 721-3-2.

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Matériels et systèmes de téléconduite –

Partie 2: Conditions de fonctionnement – Section 2: Conditions d'environnement (influences climatiques, mécaniques et autres influences non électriques)

Telecontrol equipment and systems –

Part 2: Operating conditions – Section 2: Environmental conditions (climatic, mechanical and other non-electrical influences)

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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.

5) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

6) The IEC has not laid down any procedure concerning marking as an indication of approval and has no responsibility when an item of equipment is declared to comply with one of its standards.

International Standard IEC 870-2-2 has been prepared by IEC technical committee 57: Power system control and associated communications.

This standard partially replaces IEC 870-2-1, issued in 1987, and constitutes a technical revision.

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

FDIS	Report on voting
57/264/FDIS	57/287/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.

Annexes A and B form an integral part of this standard.

INTRODUCTION

Telecontrol systems are used for monitoring and control of geographically widespread processes and have to work under a wide range of environmental conditions. To ensure optimal performance under all possible conditions, it is absolutely necessary to establish requirements for the apparatus and systems in respect of the different environmental conditions.

This section of IEC 870-2 considers environmental aspects related to climatic conditions (air temperature, humidity and pressure, rain, snow, ice, solar radiation, etc.); corrosive and erosive influences of physical and chemical agents in the air as well as mechanical influences (vibrations, mechanical shocks, earthquakes).

With reference to climatic and mechanical conditions, this section has been prepared following the general indications of IEC Guide 106 and the general classification of environmental conditions given in IEC 721, in particular in IEC 721-3-1, IEC 721-3-2, IEC 721-3-3 and IEC 721-3-4; in addition, IEC 654-1 has been considered. As regards corrosive and erosive influences, reference is only made to IEC 654-4, developed for industrial process measurement and control equipment, considered applicable also to telecontrol equipment and systems and to other equipment and systems included in the scope of the present standard.

TELECONTROL EQUIPMENT AND SYSTEMS –

Part 2: Operating conditions – Section 2: Environmental conditions (climatic, mechanical and other non-electrical influences)

1 Scope and object

This section of IEC 870-2 applies to telecontrol equipment and systems with coded bit serial data transmission for monitoring and control of geographically widespread processes.

It is also a reference standard for teleprotection equipment and systems and for equipment included in a distribution line carrier (DLC) communication system supporting a distribution automation system (DAS) and also for associated communications such as power line carrier.

This section specifies classes for environmental conditions (climatic, mechanical and other non-electrical influences) under which the various components of the systems have to operate.

Particular conditions directly related to fire and explosion hazards and to ionizing radiation are not considered.

Detailed specifications for any other environmental conditions (including those related to mobile installations), not covered in this section but relevant for the proper operation and life of the equipment, are matters for negotiation between user and supplier.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 870-2. 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 870-2 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 68*: Environmental testing*

IEC 654-1: 1993, *Industrial process measurement and control equipment – Operating conditions – Part 1: Climatic conditions*

IEC 654-4: 1987, *Operating conditions for industrial-process measurement and control equipment – Part 4: Corrosive and erosive influences*

IEC 721-2-1: 1982, *Classification of environmental conditions – Part 2: Environmental conditions appearing in nature – Temperature and humidity*