SLOVENSKI STANDARD
SIST EN 60864-2:1999

01-januar-1999

Standardization of interconnections between broadcasting transmitters or transmitter systems and supervisory equipment - Part 2: Interface standards for systems using data interconnections and television broadcasting specification sheets (IEC 60864-2:1997)

Standardization of interconnections between broadcasting transmitters or transmitter systems and supervisory equipment -- Part 2: Interface standards for systems using data bus type interconnections

Normung der Zusammenschaltung von Rundfunksendern oder Sendersystemen mit Fernwirkeinrichtungen -- Teil 2: Schnittstellen für Anlagen mit Datenbus-Verbindungen

Normalisation des interconnexions entre les émetteurs ou les systèmes d'émetteurs de radiodiffusion et les systèmes de télésurveillance -- Partie 2: Normes d'interface pour les systèmes à interconnexions canalisées

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English version

Standardization of interconnections between broadcasting transmitters or transmitter systems and supervisory equipment Part 2: Interface standards for systems using data bus type interconnections (IEC 60864-2:1997)

Normalisation des interconnexions entre les émetteurs ou les systèmes d'émetteurs de radiodiffusion et les systèmes de télésurveillance Partie 2: Normes d'interface pour les systèmes à interconnexions canalisées (CEI 60864-2:1997)

Normung der Zusammenschaltung von Rundfunksendern oder Sendersystemen mit Fernwirkeinrichtungen Teil 2: Schnittstellen für Anlagen mit Datenbus-Verbindungen (IEC 60864-2:1997)

This European Standard was approved by CENELEC on 1997-07-01. 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.

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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.

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CENELEC

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

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Foreword

The text of document 103/3/FDIS, future edition 1 of IEC 60864-2, prepared by IEC TC 103, Transmitting equipment for radiocommunication, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60864-2 on 1997-07-01.

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) 1998-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-04-01

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

Endorsement notice

The text of the International Standard IEC 60864-2:1997 was approved by CENELEC as a European Standard without any modification.

In the official version, for annex C, Bibliography, the following note has to be added for the standard indicated:

IEC 60864-1	NOTE: Harmonized, together with its amendment 1:1987, as HD 577 S1:1990 (not modified).

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 60559	1989	Binary floating-point arithmetic for microprocessor systems	HD 592 S1	1991
IEC 60625-2	1993[1)]	Programmable measuring instruments Interface system (byte serial, bit parallel) Part 2: Codes, formats, protocols and common commands	-	-
ISO/IEC 8482	1993	Information technology Telecommunications and information exchange between systems - Twisted pair multipoint interconnections	-	-
IEEE 1118	1990	Microcontroller-system, Serial control bus	-	-

1) IEC 60625-2:1980 is harmonized as HD 414.2 S1:1983.

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Normalisation des interconnexions entre les émetteurs ou les systèmes d'émetteurs de radiodiffusion et les systèmes de télésurveillance –

Partie 2: Normes d'interface pour les systèmes à interconnexions canalisées

Standardization of interconnections between broadcasting transmitters or transmitter systems and supervisory equipment –

Part 2: Interface standards for systems using data bus type interconnections

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

STANDARDIZATION OF INTERCONNECTIONS BETWEEN BROADCASTING TRANSMITTERS OR TRANSMITTER SYSTEMS AND SUPERVISORY EQUIPMENT –

Part 2: Interface standards for systems using data bus type interconnections

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 co-operation 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 express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are 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) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

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

International Standard IEC 60864-2 has been prepared by technical committee 103: Transmitting equipment for radiocommunication.

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

FDIS	Report on voting
103/3/FDIS	103/6/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.

IEC 60864 consists of the following parts, under the general title *Standardization of interconnections between broadcasting transmitters or transmitter systems and supervisory equipment:*

– Part 1: Interface standards for systems using dedicated interconnections;

– Part 2: Interface standards for systems using data bus type interconnections.

Annexes A, B and C are for information only.

INTRODUCTION

The majority of broadcasting transmitting stations are designed and constructed to operate unattended, that is without personnel being present in the same room as the transmitter. Normally, supervisory equipment is installed which continuously monitors and sometimes controls the operation of the transmitters. The supervisory equipment may range from a simple unit which merely extends indications and controls into an adjacent room, to a highly sophisticated system enabling a large number of transmitters to be controlled from a common point.

The majority of existing transmitters employ wired interconnections; however, the advent of microprocessors and software techniques will require different interconnection methods, for example, by means of optical fibres.

It therefore seems appropriate to divide IEC 60864 into two parts, part 1 dealing with dedicated interconnections and part 2 dealing with data bus type interconnections.

STANDARDIZATION OF INTERCONNECTIONS BETWEEN BROADCASTING TRANSMITTERS OR TRANSMITTER SYSTEMS AND SUPERVISORY EQUIPMENT –

Part 2: Interface standards for systems using data bus type interconnections

1 Scope

This part of IEC 60864 is applicable to all classes of transmitters for sound and television broadcasting. This standard may not, however, be appropriate for low power equipment, for simple transmitting systems which consist of a small number of controlled equipment items and for certain special purpose transmitters.

Any facilities and interconnections not directly associated with the transmitters, for example intruder alarms, mast lighting, etc., are excluded from this standard.

This part of IEC 60864 deals with the interface between a transmitter (or system of transmitters) and the supervisory equipment which is intended to remotely monitor and/or control the transmitter(s). It details the interconnections and facilities to be provided with a view to achieving compatibility between different types and makes of transmitters and supervisory equipment.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60864. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 60864 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 60559: 1989, *Binary floating-point arithmetic for microprocessor systems*

IEC 60625-2: 1993, *Programmable measuring instruments – Interface system (byte serial, bit parallel) – Part 2: Codes, formats, protocols and common commands*

ISO/IEC 8482: 1993, *Information technology – Telecommunications and information exchange between systems – Twisted pair multipoint interconnections*

IEEE 1118: 1990, *Microcontroller-system, Serial control bus*

3 General aspects

3.1 *Definitions*

For the purpose of this part of IEC 60864, the following definitions apply.

3.1.1 **(N + 1) dedicated reserve system**: (N + 1) reserve system where the same transmitter is always dedicated as the reserve.

3.1.2 **(N + 1) reserve system**: System of transmitters in which only one reserve is provided for N (N > 1) transmitters in operation.

See figure A.5.

3.1.3 **active reserve**: System of transmitters in which the reserve is in continuous use and contributes to the output power, for example, parallel operation.

See figure A.3.

3.1.4 **alarm**: Indication of an abnormal status.

3.1.5 **automatic**: Term used to describe a system which acts in a predetermined way, without the external intervention of an operator.

See figure 1.

3.1.6 **automatic changeover**: Changeover action, which occurs in a preselected way, without the external intervention of an operator.

3.1.7 **basic transmitter**: Individual transmitters in a system consisting of more than one transmitter.

3.1.8 **changeover**: Transfer from one signal path or item of equipment to another, normally a spare or reserve, provided as part of a transmitter system.

3.1.9 **command**: Action by means of which any part of a transmitter system is made to change its status.

3.1.10 **command circuit**: Circuit in a supervisory system, by means of which each command is sent to the transmitter.

3.1.11 **control system**: System used to operate a transmitter, transmitter system and/or the associated equipment by means of one or more commands.

See figure 1.

3.1.12 **drive (excitation) (exciter)**: Low level radio frequency part of a transmitter or transmitter system.

The drive may be either

– unmodulated, for example, a simple crystal oscillator (sometimes referred to as excitation), or

– modulated, sometimes followed by amplifiers to form a "drive transmitter".

See figure A.6.

3.1.13 **fault (failure) (fail)**: Abnormal condition of the equipment which usually results in the generation of an alarm.

3.1.14 **indication**: Information concerning the status, or quality, relating to an item of equipment or system.

Quality indications may be either

– objective, for example, metering in digital or analogue form, insertion test signal (ITS) measurements, or

– subjective, for example, assessment of picture or sound quality on a picture monitor or loudspeaker.

3.1.15 **indication circuit**: Circuit in a supervisory system, by means of which each indication is sent from the transmitter.

See figure 1.

3.1.16 **inhibit**: Temporary state into which the transmitter is switched due to an abnormal condition (e.g. flashover) for a short period of time. It resumes normal operation automatically after a certain time has elapsed.

3.1.17 **interface**: Boundary between one part of an item of equipment or system and another.

3.1.18 **local**: Term used to describe commands and indications which are part of the transmitting equipment or system logic.

See figure 1.

3.1.19 **lock-out**: Term used to describe the status of an item of equipment or system which has been switched off or changed over automatically because of a fault or other abnormal condition and usually requires manual intervention to reset.

3.1.20 **logic**: Deduction and/or execution of output conditions dependent upon input conditions.

3.1.21 **logic unit unavailable**: Message which indicates that automatic switchover is not possible because of failure in the logic unit itself or because a changeover is at that instant in the process of being executed.

3.1.22 **manual**: Term used to describe an action taken by an operator either locally or remotely.

See figure 1.

3.1.23 **manual control**: Mode of operation of the system logic which inhibits automatic changeover.

3.1.24 **modulated**: Normal operating state of the transmitter which is broadcasting with modulation.

3.1.25 **momentary closure**: Short duration contact closure rather than a continuous contact closure for command.

3.1.26 **monitoring system**: System used for checking the status and/or performance of a transmitter or transmitter system and which normally comprises both status and quality indications.

See figure 1.